

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

January 19, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Data Submission: R.D. No. 1399

Roundup Ultra Herbicide, EPA Reg. No. 524-475

Bird and Honey Bee Toxicity Studies

Dear Mr. Tompkins:

Monsanto herein submits three volumes of information as R.D. 1399 describing the findings of bird and honeybee toxicity evaluations of this formulation, which is already registered under EPA Reg. No. 524-475. Monsanto recognizes that this information has not required at this time by the Agency, but Monsanto would to have this favorable information in your files should a question ever arise about the safety of Roundup Ultra. The findings show that the MON 65005 did not produce mortality or adverse effects in Bobwhite quail, Mallard ducks, or Honeybees at the highest does tested in these studies.

The studies are identified as:

"MON 65005: A Dietary LC50 Study with the Mallard." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-259; 1997.

"MON 65005: A Dietary LC50 Study with the Northern Bobwhite." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-258; 1997.

"MON 65005: An Acute Toxicity Study with the Honey Bee." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-238; 1997.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten

Manager, Registrations

cc: R. P. Schneider

TRANSMITTAL DOCUMENT

SUBMITTED BY

Monsanto Co. 800 N. Lindbergh Blvd. St. Louis, MO 63167

REGULATORY ACTION IN SUPPORT OF WHICH THE PACKAGE IS SUBMITTED

Support the Continued Registration of Roundup® Ultra Herbicide

TRANSMITTAL DATE

January 19, 1998

SUBMISSION NUMBER

R.D. 1399

LIST OF SUBMITTED DATA:

Vol. 1. "MON 65005: A Dietary LC50 Study with the Mallard." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-259; 1997.

MRID 44465701

Vol. 2. "MON 65005: A Dietary LC50 Study with the Northern Bobwhite." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-258; 1997.

MRID 44465702

Vol. 3 "MON 65005: An Acute Toxicity Study with the Honey Bee." Palmer, Susan J. and Beavers, Joann B.; Monsanto Study No. WL-95-238, 1997.

MRID 44465703

<u>COMPANY OFFICIAL</u>

Stephen J. Wratten Manager, Registrations

COMPANY NAME:

Monsanto Co.

COMPANY CONTACT: Dr. Russell P. Schneider, (202)-783-2460

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs

MONSANTO COMPANY 700 CHESTERFIELD PARKWAY NORTH ST. LOUIS, MO 63198

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 01/21/98. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

January 19, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Data Submission: R.D. No. 1398

Roundup Ultra Herbicide, EPA Reg. No. 524-475 Storage Stability and Corrosion Characteristics

Dear Mr. Tompkins:

Monsanto herein submits one volume of information R.D. 1398 describing the Storage Stability and Corrosion Characteristics of MON 77360 Herbicide. (Guideline 63-17 and 63-20). This glyphosate formulation is an alternate formulation already registered under EPA Reg. No. 524-475. The prior Product Chemistry study MRID 44057201 was submitted in July, 1996, when Monsanto applied for approval. At that time this real-time container aging study was in progress but not complete. It has now been finalized and is herein provided for your records. The findings show that the product was stable during the 12-month study and that the container did not deteriorate.

The study is identified as:

"Product Chemistry Data for MON 77360 Herbicide. Storage Stability and Container Corrosion Characteristics (Guidelines 63-17 and 63-20)"; Nord, Paul J.; Monsanto Report No. MSL-15092; 1997.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely

Stephen J. Wratten Manager, Registrations

cc: R. P. Schneider

TRANSMITTAL DOCUMENT

SUBMITTED BY

Monsanto Co. 800 N. Lindbergh Blvd. St. Louis, MO 63167

REGULATORY ACTION IN SUPPORT OF WHICH THE PACKAGE IS SUBMITTED

Support the Continued Registration of Roundup® Ultra Herbicide

TRANSMITTAL DATE

January 19, 1998

SUBMISSION NUMBER

R.D. 1398 -

LIST OF SUBMITTED DATA:

"Product Chemistry Data for MON 77360 Herbicide. Storage Stability and Container Corrosion Characteristics (Guidelines 63-17 and 63-20)"; Nord, Paul J.; Monsanto Report No. MSL-15092; 1997.

MRID

44465101

COMPANY OFFICIAL

Stephen J. Wratten Manager, Registrations

COMPANY NAME:

Monsanto Co.

COMPANY CONTACT: Dr. Russell P. Schneider, (202)-783-2460

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs

MONSANTO COMPANY 700 CHESTERFIELD PARKWAY NORTH ST. LOUIS, MO 63198

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 01/21/98. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 19, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Data Submission: R.D. No. 1371 Nature of the Residue in Cotton

Dear Mr. Tompkins

Monsanto herein submits one volume of information describing the Nature of the Residue (Guideline 171-4(a)) in RoundupReady® cotton plants that have been genetically altered to provide tolerance to glyphosate, the active ingredient in Roundup® Herbicide.

This information is submitted as supplemental information supporting this presently registered use. The findings demonstrate that the glyphosate-derived residue in cotton forage and seed is composed of glyphosate itself, and aminomethyl-phosphonic acid (AMPA), as is the case in non-tolerant varieties.

The study is identified as:

"Nature of the Glyphosate Residues in Cotton Plants (Genotype Line #1445) Tolerant to Roundup® Herbicide"; Bleeke, Marian S.; Monsanto Report No. MSL-14113; 1997.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerety,

Sheila A. Schuette Manager, Registrations

Shila a fremette

cc: R. P. Schneider

TRANSMITTAL DOCUMENT

SUBMITTED BY

Monsanto Company 800 N. Lindbergh Blvd. St. Louis, Missouri 63167

REGULATORY ACTION IN SUPPORT OF WHICH THIS PACKAGE IS SUBMITTED

Supplementary Information

Describing the Nature of the Residue in Roundup® Ready Cotton Plants

(Guideline 171-4(a)

TRANSMITTAL DATE

May 19, 1997

SUBMITTED STUDY

R. D., No. 1371

LIST OF SUBMITTED DOCUMENTS

Volume 1 Marian S. Bleeke, Nature of the Glyphosate Residues in Cotton Plants
(Genotype Line #1445) Tolerant to Roundup® Herbicide Monsanto Report
No. MSL-14113, 1997

MRID 44279301

U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs

MONSANTO COMPANY
700 CHESTERFIELD PARKWAY NORTH
ST. LOUIS, MO 63198

Report of Analysis for Compliance with PR Notice 86-5

Thank you for your transmittal of 05/21/97. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 86-5. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.



MONSANTO COMPANY 800 NORTH LINDBERGH BOULEVARD, ST. LOUIS, MISSOURI 63167 PHONE (314) 694-1000 http://www.monsanto.com

February 24, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Memorandum of Understanding Meeting on Rice Uses 18-Feb-98 Roundup Ultra Herbicide (524-475)

Dear Mr. Tompkins:

I appreciate the time you and your colleagues spent with Dr. Schneider and I earlier this afternoon to review our plans for adding rice uses to the label directions for Roundup Ultra Herbicide. I would like to take this opportunity to summarize the meeting and our conclusions.

In attendance for EPA: Jim Tompkins, Vickie Walters, Phil Errico, Kerry Leifer, James Goodyear, and Kevin Poff. In attendance for Monsanto: Steve Wratten and Russ Schneider.

As I stated, Monsanto is compiling residue to support tolerance increases in all appropriate rice commodities in support of pre-harvest applications. These data will be completed and submitted toward the end of 1998. As we discussed at the meeting, these treatments should not involve direct treatment of flooded rice fields, so the present label prohibitions against application to water should not be a problem for the preharvest use.

Monsanto will then begin to develop data in support of applications to glyphosate-tolerant ("Roundup Ready") rice. These treatments will involve use directions for spraying flooded rice fields twice or possibly three times during the season. The following guidance was supplied by EPA during the meeting:

- Residue data would be needed for all appropriate rice commodities from glyphosate telerant rice to demonstrate that residues are within existing tolerances or to support tolerance increases.
- 2. No other tolerances would be required to allow these treatments, since fish and shellfish tolerances are in place.

- 3. A superior dossier would include up-to-date data on the levels of glyphosate that would occur in treated rice paddy water, and the rate at which these residues would dissipate. The purpose of these data would be to show that exposure to shellfish or fish which might be raised in or around such treated rice fields would not exceed the levels that were utilized in the original tests that established the relevant fish and shellfish tolerances. These data could be obtained from a few of the rice residue study sites.
- 4. In the absence of such dissipation data to assure acceptable residues, label prohibitions against treating fields where fish or shellfish are harvested might be required when the Agency completes its review of the submitted information. Such label prohibitions are presently used on labels of other rice pesticides that lack fish and shellfish tolerances.
- 5. Results from studies on the toxicity of Roundup Ultra Herbicide to aquatic species (trout, bluegill, and Daphnia) were presented at the meeting. These studies will have to be submitted and reviewed by the Agency in support of the proposed application to flooded rice fields.
- No other data on non-target species specific to the Roundup Ultra Formulation were identified as being needed to support the proposed use. Other data on the active ingredient glyphosate as summarized in the RED exist for EPA's reference as needed.
- Assuming that EPA's reviews concur with the LC₅₀'s for Roundup Ultra Herbicide presented by Monsanto, the Risk Quotients associated with the proposed uses did not create concern for aquatic species in treated fields.
- 8. Generally, the Agency does not regulate on ecological effects in the directly treated agricultural field, but would consider carefully the potential impact of water released to general surface supplies.
- 9. The above data on dissipation in treated fields would help to establish if a specific holding period for the flood water after treatment would be needed.

If I have misinterpreted any of the guidance and suggestions provided by the Agency during our meeting, please correct those errors. Again, we appreciate the time you have taken to provide us your thoughts on our plans. If you have any additional comments on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten

Manager, Registrations

R. P. Schneider

cc.

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

January 14, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental Label for Postemergence

Weed Control Programs for Roundup Ready® Corn

Dear Mr. Tompkins:

Monsanto is submitting for your files five (5) copies of the final printed supplemental label (print plate #: 21137V1-41) for Roundup Ultra herbicide for postemergence weed control programs for Roundup Ready corn. This supplemental label was approved by the Agency on November 17, 1997.

If you have any questions regarding this submission feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-8890.

Sincerely,

Annette M. Kirk

annetto M. Lik

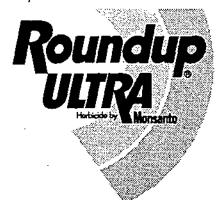
Registration Manager

cc; R. P. Schneider

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



In Accordance with PR Notice 82-2.
Based on Draft Labeling Dated

\$\forall 26 \quad \forall 7

EPA Reg. No. 524-475

®Roundup and Roundup Ready are registered trademarks of Monsanto Company.

USE ONLY FOR SEED PRODUCTION OF SUGAR BEETS WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBI-CIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN SUGAR BEETS WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT SU-

The state of the s

GAR BEETS IN PRODUCTION FIELDS OF SUGAR BEETS CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF SUGAR BEETS VARIETIES WHICH DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

USE RECOMMENDATIONS

This product will control nonglyphosate tolerant sugar beets in seed production fields of sugar beets containing the Roundup Ready gene. This product may be applied using ground spray equipment only. Apply 24 ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application of 24 ounces per acre may be applied, if needed to control non-glyphosate tolerant sugar beets plants.

DO NOT EXCEED A MAXIMUM

RATE OF 1 QUART OF THIS PRODUCT PER ACRE PER SEASON.

Application timing -- This product can be applied to Roundup Ready sugar beets from emergence to the canopy closure.

Treated sugar beets may not be used for food or feed. Do not feed or graze treated sugar beets. Do not process treated sugar beets for food or feed.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra harbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, roturn the product unoperied at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167 / 3

21137V1-24

8/26/97

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005 January 12, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental Label for Seed Production

of Canola with the Roundup Ready® Gene

Dear Mr. Tompkins:

Monsanto is submitting for your files five (5) copies of the final printed supplemental label (print plate #: 21137V1-20) for Roundup Ultra herbicide for seed production of canola with the Roundup Ready gene. This supplemental label was approved by the Agency on August 26, 1997.

If you have any questions regarding this submission feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-8890.

Sincerely,

Annette M. Kirk

annette M. Kirk

Registration Manager

cc: R. P. Schneider

| Please read instructions on t | reverse before comple | tina form. | · | Form App | proved. O | MB No. 2070- | 0060. | Approval expires 05-31-9 |
|---|--|---|--|--|---|------------------------------|---------------------------------|--|
| ≎ EPA | United States Environmental Protection Agency Weshington, DC 20450 | | | R | Registration | | OPP Identifier Number 255260 | |
| | | Application | n for Pestic | ide - Se | ction I | | | · |
| 1. Company/Product Number 524-475 | | | · i | 2. EPA Product Manager Mr. James Tompkins | | 15 | 3. Proposed Classification | |
| 4. Company/Product (Name) Roundup Ultra Herbicide | | | PM# | | | | | |
| 5. Name and Address of Applicant Include ZIP Code) Monsanto Company 700 14th Street, N.W., #1100 Washington, DC 20005 | | | (b)(i), to: EPA | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling | | | | |
| Cheek if this | is a new address | | | luct Name | | | <u></u> | |
| Amendment - Explain Resubmission in resp | onse to Agency letter | dated | Section - | Final print Agency le | ed labels in tter dated Application | | Aug | ust 26, 1997 |
| ₄Sµbπission of the Roundup Re | | supplemen | section - | n | Produc | tion of | Cano | la with |
| 1. Material This Product Wil | Re Packaged In: | | Section - | 1113 | _ | • | | |
| Child-Resistent Packaging Yes* No Certification must be submitted | Unit Packaging Yes No If "Yes" Unit Packaging wgt. | No. per container | Water Soluble Yes No If "Yes" Package wgt | Peckaging No. per | | Pi Gi | etal aetic lass . iper | pecify) |
| 3. Location of Net Contents Information 4. Size(s) Retail Co | | | ail Container | ·1 <u>·</u> | 5. Locat | | | ns panying product |
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| Donate Prince (October | | | Section - | | · . | | • | · · · · · · · · · · · · · · · · · · · |
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| Dr. Russell P. | Schneider | 14 20 40 | ^{Title} Agricu <u>"Direc</u> t | ltural R or_ | egulati | | | No. (Include Area Code) 783-2460 |
| I certify that the states I ecknowledge that an both under applicable i | y knowingly false or n | Certifications this form and nisleading state | all attachments t | hereto ere tr nishable by f | ue, accura îna or impi | te and comple isonment or | ta. | 6. Data Application Received (Stamped) |
| Signature 3. Tit | | | Regis | Registration Manager | | | | |
| .Typed Name Annette M. Kirl | k | į | Date Janua | my 10, | 1998 | | | to soft appending. |
| 'A Form 8570-1 (Rev. 8-94) | Previous editions are | obsolete. | - (-) | | | File Copy (or | oloeil | Yellow - Applicant Cor |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to everage 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other espect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). Ill not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- Three copies of any data submitted;
- Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup; it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections 1, Ill, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A -/Check the appropriete action for which you are submitting this form.

SECTION ! - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- Proposed Classification Specify the proposed classification of this product.
- Product Name" Enter the complete product name of this posticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to... your product. The product must be similar or identical in both formulation and labeled uses.

C. S. 140

รักษาวิสาร์โ โดยเราะสด โดยวิหารา SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (spacify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed. ં તેવારુક શોધી વલ્લામાન 🗽

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments. - - - -

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container."
- 2. Type of Retail Container Indicate type of container in which product will be marketed. 300
- 3. Location of NCT Contents Indicate the location of the net contents information for your product,
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Ure Directions Indicate the location of the use directions for your product.
- Manner in which label is affixed to product. Indicated the method product label is attached to retail container.

SECTION IV (Currect Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "mo-two," reregistration, etc.

1-5. Self-explanatory.

Yollow - Applicant Co.

EPA Use Only.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herboide and this supplement.



MOT FINITHMED In Accordance with PR Notice 88-2, Based on Draft Labeling Dated

EPA Reg. No. 524-475

®Roundup and Roundup Ready are registered trademarks of Monsanto Company.

USE ONLY FOR SEED PRODUCTION OF CANOLA WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBI-CIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN CANOLA WITH THE ROUNDUP READY GENE, BECAUSE SE-VERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-

GLYPHOSATE TOLERANT CANOLA IN PRODUCTION FIELDS OF CANOLA CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF CANOLA VARIETIES WHICH DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

USE RECOMMENDATIONS

This product will control nonglyphosate tolerant canola in seed production fields of canola containing the Roundup Ready gene. This product may be applied using ground spray equipment only. Apply 1 pint of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application of 1 pint per acre may be applied, if needed to control non-glyphosate tolerant canola plants.

DO NOT EXCEED A MAXIMUM

RATE OF 1 QUART OF THIS PRODUCT PER ACRE PER SEASON.

Application timing -- This product can be applied to Roundup Ready canola from emergence to the pre-flower (early bolting) stage.

Treated canola may not be used for food or feed. Do not feed or graze treated canola. Do not process treated canola for food or feed.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167/2 21137V1-20 8/26/97

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

January 9, 1998

Hand Delivered

Office of Pesticide Programs
Document Processing Center (Final Printed Labeling)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Ultra Herbicide (EPA Reg. No. 524-475)

Supplemental Label for Pistachios

Response to EPA Approval dated 26-Aug-97

Dear Mr. Tompkins:

On 26-Aug-97, the Agency approved a supplemental label for Roundup Ultra₀ Herbicide for use in pistachios reducing the preharvest interval to 3 days. Enclosed for your files are five (5) copies of the final printed labeling identified as Print Plate Number 21137V1-21 and dated 26-Aug-97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

R. P. Schneider

TELEPHONE: (202) 783-2460 FACSIMILE: (202) 783-2468

CC:

A. Hedgecock

| Please read instructions of | n reverse before completing | form. | For | m Approved | OMB No. 20 | 70-0080. | Approval expires 05-31-9 |
|--|---|--|---------------------------------|---|----------------------------------|--|--|
| ≎ EPA | United States Environmental Protection Agency Washington, DC 20460 | | | x | Registra Amendr Other | | OPP Identifier Number |
| | Ap | plication for I | esticide | Section | <u> </u> | | |
| 1. Company/Product Numb | | | 2. EPA Produ | | | 3. Pro | pposed Classification |
| 4. Company/Product (Nam | | PM# 25 | | | T X | None Restricted | |
| 5. Name and Address of A Monsanto 700 14th Washingt | up® Ultra Herbicion (Include ZIP Code) Company Street, N.W., Suon, DC 20005 | | • | oduct is sir | | | FIFRA Section 3(c)(3) mposition and labeling |
| | | Sec | tion - II | - | | | |
| Notification - Expla | sponse to Agency letter date | | Age - Me | l printed lab ncy letter da Too" Applid er - Explain b | eation. | to 8/ | 26/97 |
| † ; Final | printed supplementhree days prior | ntal label fo to harvest | | o Ultra | for pista | chios | |
| 1. Material This Product V | fill Be Packaged In: | | | _ | | | |
| Child-Resistant Packeging Yes* No Certification must be submitted | | o. per if "Yes Package | | o, per ontainer | 2. Type of | Container Metal Plestic Gless Paper Other (S | pecify) |
| 3. Location of Net Content | a information 4, 5 Container | lize(s) Retail Contain | ner , | 5. L | Ocation of Lab On Label On Label | | ns panying product |
| 6. Manner in Which Lebel i | e Affixed to Product | Lithograph Paper glued Stenciled | | Other | | | |
| | | Sect | on - IV | | 2 | | |
| 1. Contact Point (Complet | e items directly below for id | entification of indivi | dual to be con | tected, if ne | cessary, to pro | cess this | application.) |
| Name Dr. Russ | | | | | | No. (Include Area Code) 783-2460 | |
| i certify that the stat I scknowledge that a both upder applicable | ements I have made on this iny knowingly false or mislas | Certification form and all attached iding statement ma | nents thereto y be punishabl | are true, acc a by fine or i | urate and con mprisonment | nplete. or | 6. Date Application Received (Stamped) |
| 2. Signaturi | Vest | 3. Title Mana | ger, Reg | istratio | ns | | 19 |
| 1. Typed lame Stephen | J. Wratten, Ph.D. | 5. Date | January | 9, 199 | 8 | | |
| PA Form 8570-1 (Rev. 8-9 | 4) Previous editions are obse | plete. | | White • E | PA File Copy | (original) | Yellow - Applicant Cop |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other espect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any date submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications; reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name: Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (8) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to smend the registration only of a currently registered product Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for eregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for agistration.

Subject of submission. Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

ECTION III (Packaging and Container Information). This Section must be completed for all applications submitted in connection with new restriction or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- Typn of Metall Container Indicate type of container in which product will be marketed.
- Location of Net Contents Indicate the location of the net contents information for your product.
- Sixe(s) of Retail Container Specify the net contents of all retail containers for your product.
- Leading of Use Directions Indicate the location of the use directions for your product.
- MCKRar in which lebel is affixed to product Indicated the method product label is attached to retail container.

ECTION IV (Connect Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, submission, "me-tog," registration, etc.

Self-explanatory, EPA Use Only.

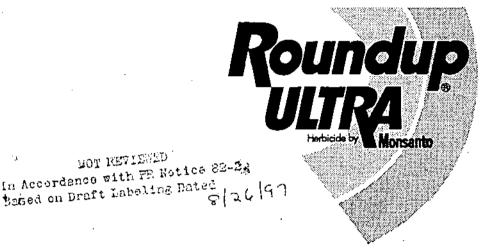
During professor in Application

EPA Form 8570-1 (Rev. 8-94) Previous editions are opsoleto.

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



EPA Reg. No. 524-475

HOL KEALESED

®Roundup is a registered trademark of Monsanto Company.

FOR PISTACHIOS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBI-CIDE WITH FOLIAGE, GREEN STEMS. **EXPOSED** NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product is recommended for weed control in established groves of pistachios. Applications may be made with boom equipment, shielded sprayers, handheld and high volume wands, lances and orchard guns, CDA equipment or with wiper application equipment.

For specific rates of application and instructions, see the Weed Control Tables and Tree Nuts sections of the label booklet for Roundup Ultra herbicide.

Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and -Liability" in the label booklet for Roundup Ultra herbicide before These terms apply to this supplemental labeling and if these terms are not acceptreturn the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21137V1-21

8/26/97

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

December 3, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (Final Printed Labels)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Ultra Herbicide (EPA Reg. No. 524-475)

Final Printed Labels

Responsive to EPA approval dated 4-Mar-1997

Dear Mr. Tompkins:

Enclosed for your files are five (5) copies of final printed labels reflecting the amendments to the Roundup Ultra Herbicide registration that the Agency approved 4-Mar-1997. This label is dated 1997-1 and identified by the print plate No. 21137V3-2/53.

In addition, these other minor modifications are included:

- The statement about the President's Green Chemistry Award (page 1 of the stamped label) was not printed in this booklet.
- As a result of the label review in California, the Oust tank mix restriction against air application in that state (page 11 of stamped label) and the prohibition against use on sunflowers in California (page 27 of stamped label) were found not to be needed any longer and are not printed.
- Some text in the cotton use instructions was inadvertently duplicated in the stamped label (page 20 -21 of stamped label). This error was corrected in the printed version.
- In the weed applications rate tables (page 58 74 of the printed booklet), the designation "GPA" standing for "Gallons per Acre" was added to the heading to clarify the water volume figures.

TELEPHONE: (202) 783-2460

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten. Manager, Registrations

cc: R. P. Schneider

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FACSIMILE: (202) 783-2468

| Please read instructions | on reverse before comple | ting form. | Form App | roved. OMB No. | . 2070-0080. | Approvel expires 05-31-98 |
|---|---|---|--|--|--|--|
| ≎EPA | United States | | | - | tration dment | OPP Identifier Number |
| | | Application for I | Pesticide - Sec | tion I | | <u> </u> |
| 1. Company/Product Nu Mon | mber | 1-475 | 2. EPA Product Man | nager | | pposed Classification |
| 4. Company/Product (N | ^{ame)} Roundup® Ult | ra Herbicide | PM# 25 | 5 | X | None Restricted |
| Monsanto 700 14th | f Applicant <i>(Include ZIP Co</i> Company Street, N.W., Su on, DC 20005 | | • • | is similar or ide | entical in co | FIFRA Section 3(c)(3) mposition and labeling |
| Check i | this is a new address | ; | Product Name | | | |
| | | Sec | tion - II | | | |
| Amendment - Ex | response to Agency letter | dated | Agency let | d labels in respo ter dated Application, elsin below. | ense to | 3/4/97 |
| Explanation: Use ad | ditional page(s) if necessary | v. (For section I and Sec | tion (I.) | | | - |
| 11 | inted label submi | | • | | | |
| | | | | | | er e |
| | | Sect | ion - III | | ٠. | the first with subspections. |
| 1. Material This Product | | · | · | · | <u>.</u> | |
| Child-Resistant Packagis Yes* No * Certification mus be submitted | Yes No | No. per If "Yes | | | of Container Metal Plestic Glass Paper Other (S | ing the second of the second o |
| | | 4 6: | · I | 5. Location of | Labal Disassia | 7931 (S. 15 15 15 15 15 15 15 15 15 15 15 15 15 |
| 3. Location of Net Conto | Container | 4. Size(s) Retail Contain | le r | On La | bei | panying product |
| 6. Manner in Which Lab | el is Affixed to Product | Lithograph Paper glued Stenciled | Othe | r | · | |
| | | Sect | on - IV | | in artifaction | the months are an in- |
| 1. Contact Point (Comp | lete items directly below fo | or identification of indivi | dual to be contected, | if necessary, to | process this | application.) |
| Dr. Russe | ell P. Schneider | | Agricultural R Pirector | legulation | | No. (Include Area Code) (1783-2460 |
| I certify that the s I acknowledge the both under applice | tatements I have mede on It any knowingly false or m tole law. | Certification this form and all attach uisleading statement man | ments thereto are truc y be punishable by fir | mnoshqmi 10 er | complete, ent or use the | Received |
| 2. Signature | m/lkats | 3. Title | lanager, Regis | trations | V (1) | The second This country |
| 4. Typed Name Steph | nen J. Wratten, P | h.D. 5. Date | December 3, | 1997 | | ังธ์ ระเกิดเรื่องที่ 6. EPA และกัญที่ |
| TA Farm 9570 4 (Day) | 0.44 0 | * * * * * * * * * * * * * * * * * * * | | | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
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Block A - Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only.'

 ... Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product [Amendment]; for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling; for registration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for agistration.

Subject of submission. Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify);" "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

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- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.

 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 2. Lexation of Net Contents Indicate the location of the net contents information for your product.
- 1. Size(s) of Retail Container Specify the net contents of all retail containers for your product,
- i. Uncation of Use Directions Indicate the location of the use directions for your product.
-) 'Manner in which label is affixed to product Indicated the method product label is attached to retail container.

ECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, reubmission, "me-too," reregistration, etc.

-5. Self-explanatory.
. EPA Use Only.

December 3, 1997

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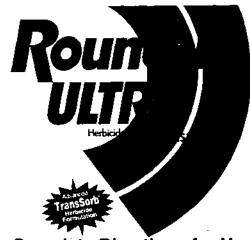
Complete Directions for Use

EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

gistered trademark of Monsanto Company.





Complete Directions for Use

EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Roundup is a registered trademark of Monsanto Company.

State took

CONTENTS

Read the entire label before using this product.

Use only according to tabel instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED, SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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| | 4 | 4.0 | STORAGE AND DISPOSAL |
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| | 10 10 | .1 R | ates for 10 to 40 GPA |

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

2.0 IMPORTANT PHONE NUMBERS

 FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EXPENSIVE INVOLVING THIS PRODUCT, OR FOR MEDICALESSIVE CALL COLLECT, DAY OR NIGHT,

3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

FIRST AID: IF IN EYES, flush with plenty of water. Get medical attention if irritation persists.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt, and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS

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User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets Inside.
 Then wash thoroughly and put on clean clothing.

3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters

3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX. STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The regulirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas dur-

ing the restricted entry interval (REI) of 4 hours.

PRE required for early entry to treated areas that is permitted under, the Worker, Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

METROPORTE DE L'ARBONNE

PRECAUTIONARY STATEMENTS

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STORAGE AND DISPOSAL

4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

See container label for STORAGE AND DISPOSAL instruc-

5.0 GENERAL INFORMATION (How this product works)

Product Description: This product is a postemergent, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid. No additional surfactants, additives containing surfactant, buffering agents or pH adjusting agents are needed or recommended. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water or other carriers according to tabel instructions.

Do not add surfactants, additives containing surfactants, buttering agents or pH adjusting agents to this product. Ammonium sulfate may be used. See the MIXING section of this label for instructions.

Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Stage of Weeds: Annual weeds are easiest to control when they are small. Best control of most perennial weeds is

obtained when treatment is made at late growth stages approaching maturity. Refer to the annual, perennial, woody brush and trees rate tables for recommendations for specific weeds.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

Spray Coverage: For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

Mode of Action: The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

No Soli Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to crow.

When this product comes in contact with soil, it is bound to soil particles. Under recommended use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treated area or if the soil is transported off-site. The strong affinity of this product to soil particles pre-

GENERAL INFORMATION

vents this product from leaching out of the soil profile and entering ground water

Biological Degradation: Degradation of this product is primarily a biological process carried out by soil microbes.

Valatifity: Roundup Ultra is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

Toxicology Testing: Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

Tank Mixing: This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

Annual Maximum Use Rale: Except as otherwise specified in a crop section of this label, the combined total of all treatments must not exceed 8 quarts of this product per acre per year.

For noncrop uses, the combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT (NJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

MIXING

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6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

6.2 Tank Mixing Procedure

Mix labeled tank mixtures of this product with water as follows:

- Place a 20 to 35 mesh screen or wetting basket over filling port.
- Through the screen, fill the spray tank one-half full with water and start agitation.
- If a wettable powder is used, make a sturry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
- If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
- If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture slowly through the screen into the tank. Continue agitation.
- Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.

Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive and water soluble liquid.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass tine on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "GENERAL INFORMA-TION" for additional precautions.

6.3 Mixing for Hand-held Sprayers

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Soray Solution

Costred Amount of Roundup Ultra

Lyofumer X Amount of Roundup Ultra

Lyofumer Y Amount of Roundup Ultr

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

MIXING

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6.4 Ammonium Sulfate

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 galions of water may increase the performance of this product, particularly when tank mixed with certain residual herbicides on annual and perennial weeds. The equivalent rate of ammonium sulfate in a liquid formulation may also be used. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: When using ammonium sulfate, apply this product at rates recommended in this label. Lower rates will result in reduced performance.

6.5 Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

6.6 Drift Control Additives

Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and COA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

This product may be applied with the following application equipment:

Azrial-Fixed Wing and Helicopter

Ground Broadcast Spray—Boom or boomiess systems, pull-type sprayer, floaters, pick-up sprayers, spray coupes and other ground broadcast equipment.

Hand-Held and High-Volume Spray Equipment—Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

*This product is not registered in California or Arizona for use in mistblowers.

Selective Equipment—Recirculating sprayers, shielded and hooded sprayers, wiper applicators and springe bars.

Injection Systems—Aerial or ground injection sprayers

Controlled Droplet Applicator (CDA)—Hand-held or boommounted applicators which produce a spray consisting of a narrow range of droplet sizes.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAIN-TAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIV-ERING DESIRED VOLUMES.

7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

Use the recommended rates of this herbicide in 3 to 15 gattons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fattow and reduced tillage systems and preharvest applications. Refer to the individual use area sections of this label for recommended volumes and application rates.

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FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS. This product plus BanvelTM or 2,4-D tank mixtures may not be applied by air in California

Avoid direct application to any body of water.

AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Thoroughty wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR ARE MOST SUSCEPTIBLE. The maintenance of an organic coating (paint), which meets aerospace specification MIL-C-38413, may prevent corrosion.

7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume

should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a line mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

7.3 Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff, Use coarse sprays only.

For control of weeds listed in the annual weeds rate tables, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush and trees.

7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically recommended in cropping systems.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solu-

APPLICATION FOLIPMENT

tion not intercepted by weeds is collected and returned to the spray lank for reuse.

A shielded or hooded applicator directs the herbicide sofution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION

Contact of the herbicide solution with desirable vegetation may result in damage or destruction. Applicators used above desirable vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation may result in discoloration, stunting or destruction.

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Wiper applicators and sponge bars

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Do not add surfactant to the herbicide solution.

For Rope or Sponge Wick Applicators—Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section.

For Perous-Plastic Applicators—Solutions ranging from 33 to 100 percent of this product in water may be used in perous-plastic wiper applicators.

When applied as recommended, this product CONTROLS the following weeds:

Corn, volunteer Panicum, Texas Sicklepod Spanishneedles

Rye, common Shattercane Starbur, bristly

APPLICATION EQUIPMEN

When applied as recommended, this product SUPPRESSES the following weeds:

Beggarweed, Florida Bermudagrass Dogbane, hemp Dogtennel Guineagrass

Johnsongrass

Ragweed, common Ragweed, giant Smutgrass Suntiower Thistle, Canada Thistle, musk Vaseygrass

Velvetleaf

Milkweed Nightshade, silverleaf Pigweed, redroot

.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the concentrate of other products when using injection systems.

7.6 CDA Equipment

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units, apply a 20 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 mph (1 quart per acre). For the control of perennial weeds, apply a 20 to 40 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 mph (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or an other green tissue of desirable vegetation, as damage or destruction may result.

8.0 CROPS (Alphabetical)

This section is organized alphabetically by crop category. There may be several labeled crops listed in a crop category.

Unless otherwise specified, applications may be made to control any weeds listed in the annual, perennial and woody brush tables. Also refer to the "SELECTIVE EQUIPMENT"

For any crop not listed in this "CROPS" section, applications must be made at least 30 days prior to planting.

For broadcast postemergent treatments, do not harvest or feed treated vegetation for 8 weeks following application, unless otherwise specified.

When applying this product prior to transplanting crops into plastic mulch, residues may be removed from the plastic by 0.5 inches of water via sprinkler irrigation or natural rainfall.

Alfalfa, Clover, and Other Forage Legumes

LABELEO CROPS: Alfalfa, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, velvet bean, vetch, crown vetch, milk vetch

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, wiper applicators, renovation, preharvest

Preplant, Preemergence and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting alfalfa and clover. Applications must be made prior to emergence of the crop.

PRECAUTIONS, RESTRICTIONS: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting

Preharvest (Alfalfa only)

USE INSTRUCTIONS: This product may be used in declining alfalfa stands or any stand of alfalfa where crop destruction is acceptable. This application will severely injure or destroy

CROPS

the stand of alfalfa. This product will control annual and perennial weeds, including quackgrass, when applied prior to the harvest of alfalfa. The treated crop and weeds can be harvested and ted to livestock after 36 hours. Allow a minimum of 36 hours between application and harvest. Applications may be made at any time of the year. Make only one application to an existing stand of alfalfa per year. For control of quackgrass, apply in the spring, late summer or fall when quackgrass is actively growing. Treatments for quackgrass must be followed by deep tillage for complete control.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre as a preharvest treatment. Do not use for alfalfa grown for seed, as a reduction in germination or vigor may occur.

Spot treatment or Wiper applications (Alfalfa and Clover only)

USE INSTRUCTIONS: This product may be applied as a spot treatment in alfalfa or clover. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label. Applications may be made in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Renovation

USE INSTRUCTIONS: This product may be applied as a broadcast spray to existing stands of alfalfa, clover, and other labeled forage legumes. Labeled crops may be planted into the freated area.

PRECAUTIONS, RESTRICTIONS: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

8.2 Asparagus

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, postharvest

Preplant, Preemergence

USE INSTRUCTIONS: This product may be applied prior to emergence of asparagus.

PRECAUTIONS, RESTRICTIONS: Do not apply within a week before the first spears emerge.

Spot treatment

USE INSTRUCTIONS: This product may be applied immediately after cutting, but prior to the emergence of new spears. PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. Do not harvest within 5 days of treatment.

Postharvest

USE INSTRUCTIONS: This product may be applied after the last harvest and all spears have been removed. If spears are allowed to regrow, delay application until ferns have developed. Delayed treatments should be applied as a directed or shielded spray in order to avoid contact of the spray with terns, stems or spears.

PRECAUTIONS, RESTRICTIONS: Direct contact of the spray with the asparagus may result in serious crop injury. Select and use recommended types of spray equipment for postemergence postharvest applications. A directed spray is any application where the spray pattern is aligned in such a way as to avoid direct contact of the spray with the crop. A shielded spray is any application where a physical barrier is positioned and maintained between the spray and the crop to prevent contact of spray with the crop.

CROPS

8.3 Cereal Crops

LABELED CROPS: Barley, Buckwheat, Millet (Pearl, Proso), Oats, Rice, Rye, Teosinte, Triticale, Wheat (All), Wild rice

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment (except rice), post-harvest, preharvest (wheat only), wiper applicators (wheat only)

Do not treat rice fields or levees when the field contains flood water,

Preplant, Preemergence and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting of cereal crops. Applications must be made prior to emergence of the crop.

Spot treatment (except rice)

USE INSTRUCTIONS: This product may be applied as a spot treatment in cereal crops. Apply this product before heading in small grains.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Postharves

USE INSTRUCTIONS: This product may be applied after harvest of cereal crops. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2.4-D or dicamba may be used.

PRECAUTIONS, RESTRICTIONS: For any crop not fisted on this label, applications must be made at least 30 days prior to planting the next crop. Do not harvest or feed treated vegetation for 8 weeks following application.

Preharvest (wheat only)

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of wheat. Apply after the hard-dough stage of grain (30% or less grain moisture) and at

least 7 days prior to harvest. Wheat stubble may be grazed immediately after harvest.

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 1 quart of this product per acre. Do not apply to wheat grown for seed, as a reduction in germination or vigor may occur.

Wiper applications (wheat only)

USE INSTRUCTIONS: Wiper applications may be used in wheat. To control common rye or cereal rye, apply after the weeds have headed and achieved maximum growth, when the rye is at least 8 inches above the wheat crop.

PRECAUTIONS, RESTRICTIONS: Allow at least 35 days between application and harvest. Do not use roller applicators.

8.4 Christmas Trees

TYPES OF APPLICATIONS: Post-directed, spot treatment, site preparation

Post-directed, Spot treatment

USE INSTRUCTIONS: This product may be used as a postdirected spray and spot treatment around established Christmas trace

PRECAUTIONS, RESTRICTIONS: Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable materiat. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVERTHE-TOP BROADCAST SPRAY IN CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established Christmas trees.

Site preparation

USE INSTRUCTIONS: This product may be used prior to planting Christmas trees.

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PRECAUTIONS, RESTRICTIONS: Precautions should be taken to protect nontarget plants during sile preparation applications

8.5 Citrus Crops

LABELED CROPS: Calamondin, Chironja, Citron, Citrus Hybrids, Grapefruit, Kumquat, Lemon, Lime, Mandarin (tangerine), Orange (All), Pummelo, Tangelo, Tangor

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO CITRUS CROPS.

Florida and Texas only: For burndown or control of the weeds listed below, apply the recommended rates of this product in 3 to 30 gallons of water per acre. Where weed foliage is dense, use 10 to 30 gallons of water per acre.

For goatweed, apply 2 to 3 quarts of this product per acre. Apply in 20 to 30 gallons of water per acre when plants are actively growing. Use 2 quarts per acre when plants are less than 8 inches tall and 3 quarts per acre when plants are greater than 8 inches tall. If goatweed is greater than 8 inches tall, the addition of KrovarTM II or KarmexTM may improve control. Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Perennial weeds:

| Letellilisi meces. | |
|---|-------------------------------------|
| S=Suppression | B=Burndown |
| PC=Partial Control | C=Control |
| Weed | Roundup® Ultra Rate Per Acre |
| Species | 1 OT 2 OT 3 OT 5 OT |
| Bermudagrass | B — PC C |
| Guineagrass | |
| Texas and Florida R | idae B V C C C C |
| Florida Flatwoods | B C |
| Descerace | B C C C |
| Tomoronrass | ZELS ELLEFAT POLICIONE |
| Similianofias Artematic | TRICTIONS: Allow a minimum of 1 day |
| precautions, Res between last applicat | ion and harvest |
| Detween last applical | IUII diid iidi taali |

8.6 Conservation Reserve Program (CRP)

TYPES OF APPLICATIONS: Renovation (rotating out of CRP), site preparation, dormant, wiper

Rotating out of CRP, Site preparation

USE INSTRUCTIONS: This product may be used to prepare CRP land for crop production.

Dormant, Wiper

USE INSTRUCTIONS: This product may be used to suppress competitive growth and seed production of undesirable vegetation in CRP acres. Such applications may be made with wiper application equipment or as a broadcast or spot treatment to dormant CRP grasses. For selective applications with broadcast spray equipment, apply 12 to 16 fluid ounces of this product per acre in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late tall applications can be made after desirable perennial grasses have reached dormancy.

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PRECAUTIONS, RESTRICTIONS: Some stunting of CRP perennial grasses will occur if broadcast applications are made when plants are not dormant.

8.7 Corn

TYPES OF CORN: Field corn, seed corn, sweet corn and poocorn

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, post-harvest

Preplant, Preemergence and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting corn. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

Apply these tank mixtures in 10 to 20 gallons of water or 10 to 60 gallons of nitrogen solution per acre. For Southern states, do not apply in nitrogen solutions to tough-to-control grasses such as barnyardgrass, fall panicum, broadleaf signalgrass, annual ryegrass and any perennial weeds. See the map in the Annual Weeds section of this label for areas included in this recommendation.

| atrazine | EXTRAZINE™ | LOROXTM |
|------------------|-------------------|-------------|
| BANVEL | FRONTIERT* | MARKSMAN™ |
| BICEPIM : | GUARDSMAN™ | MICRO-TECH® |
| BICEP II | HARNESS® | PARTNER® |
| BLADEX/CYANAZINE | HARNESS XTRA | PROWL™ |
| BROADSTRIKE™ | HARNESS XTRA 5.6L | SIMAZINE |
| BULLET® | LARIAT® | SURPASS™ |
| DUAL™ | LASSO®/ALACHLOR | SURPASS 100 |
| DUAL II | LINEXIM | TOPNOTCHIM |

For improved burndown, this product may be tank mixed with 2.4-D or dicamba.

Annual weeds—For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleat signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

PRECAUTIONS, RESTRICTIONS: Applications of 2,4-D or dicamba must be made at least 7 days prior to planting com.

The tank mix recommendations in this section are not registered in California.

Spot treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to silking of corn.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Dark harvest

USE INSTRUCTIONS: This product may be applied after harvest of corn. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-D or dicamba may be used.

PRECAUTIONS, RESTRICTIONS: Do not harvest or feed treated vegetation for 8 weeks following application.

8.8 Cotton

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, hooded sprayer, selective equipment, spot treatment, preharvest

CROPS

Preplant, Preemergence, and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting cotton. Applications must be made prior to emergence of the crop.

Hooded sprayer, Selective equipment

USE INSTRUCTIONS: This product may be applied through hooded sprayers, recirculating sprayers, shielded applicators or wiper applicators in cotton. Allow at least 7 days between application and harvest.

PRECAUTIONS, RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

Spot treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to ball opening of catton.

PRECAUTIONS, RESTRICTIONS: On not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

USE INSTRUCTIONS: This product provides weed control and cotton regrowth inhibition when applied prior to harvest of cotton. For weed control, apply at rates given in the annual, perennial and woody brush tables. Apply 1 pint to 2 quarts of this product per acre for cotton regrowth inhibition. Allow a minimum of 7 days between application and harvest of cotton

This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after sufficient bolls have developed to produce the desired yield of cotton. Applications made prior to this time could affect maximum yield potential.

This product may be tank mixed with OEFTM 6, FolexTM, or Prep™ to provide additional enhancement of cotton leaf drop. PRECAUTIONS, RESTRICTIONS: Do not feed or graze treated cotton forage or hay following preharvest applications, DO NOT APPLY MORE THAN 1 QUART OF THIS PRODUCT PER ACRE BY AIR. Oo not apply more than 2 quarts of this product per acre by ground. Do not apply to cotton grown for seed, as a reduction in germination or vigor may occur.

8.9 Fallow Systems

TYPES OF APPLICATIONS: Chemical fallow, preplant fallow beds, aid-to-tillage

USE INSTRUCTIONS: This product may be applied during the fallow period prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications must be made at least 30 days prior to planting. This product may be used as a substitute for tillage to control annual weeds in fallow fields. Also, broadcast or spot treatments will control or suppress many perennial weeds in fallow fields. Ground or aerial application equipment may be used. Tank mixtures with 2,4-D and dicamba may be used.

PRECAUTIONS, RESTRICTIONS: DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

Preplant fallow beds

USE INSTRUCTIONS: This product may be applied to fallow beds prior to planting or emergence of any crop listed on this label. For any crop not listed on this label, applications

CROPS

must be made at least 30 days prior to planting. This product will control weeds listed in the annual, perennial and woody brush tables.

In addition, 12 fluid ounces of this product plus 2 to 3 oz of GoalTM 2XL per acre will control the following weeds with the maximum height or length indicated: 3" — common cheeseweed, chickweed, groundset; 6" — London rocket, shepherdspurse.

16 fluid ounces of this product plus 2 to 3 oz of Goal 2XL per acre will control the following weeds with the maximum height or length indicated: 6" — common cheeseweed, groundsel, marestail (Conyza canadensis), 12" — chickweed, London rocket, shepherdspurse.

Aid-to-tillage

USE INSTRUCTIONS: This product may be used in conjunction with tillage practices in fallow systems or preplant to fabeled crops to control downy brome, cheat, volunteer wheat, tansy mustard and foxtail. Apply 8 fluid ounces of this product in 3 to 10 gallous of water per acre. Make applications before weeds are 6 inches in height. Application must be followed by conventional tillage practices no later than 15 days after treatment and before regrowth occurs. Allow at least 1 day after application before tillage.

PRECAUTIONS, RESTRICTIONS; Tank mixtures with residual herbicides may result in reduced performance.

8.10 Grain Sorghum (Milo)

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot treatment, wiper applicators, post-harvest

Preplant, Presmargence, Al-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting grain surghum. Applications must be made prior to emergence of the crop.

Spot treatment and Wiper applications

USE INSTRUCTIONS: This product may be applied as a spot treatment in grain sorghum. Make spot treatments before heading of milo. This product may be applied with wiper applicators to control or suppress the weeds listed under "WIPER APPLICATORS" in the "SELECTIVE EQUIPMENT" section of this label.

PRECAUTIONS, RESTRICTIONS: For spot treatment, do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

For wiper applicators, allow at least 40 days between application and harvest. Do not use roller applicators. Do not feed or graze treated milo fodder. Do not ensile treated vegetation.

Post-harvest

USE INSTRUCTIONS: This product may be applied after harvest of grain sorghum. Higher rates may be required for control of large weeds which were growing in the crop at the time of harvest. Tank mixtures with 2,4-0 or dicamba may be used.

This product may be applied to grain sorghum (milo) stubble following harvest to suppress or control regrowth. Apply 1 quart of this product per acre for control, or 1.5 pints of this product per acre for suppression.

PRECAUTIONS, RESTRICTIONS: Do not harvest or feed treated vegetation for 8 weeks following application.

8.11 Grass Seed Production

TYPES OF APPLICATIONS: Preplant, renovation, site preparation

USE INSTRUCTIONS: Applications may be made prior to planting or renovation of turf or forage grass areas grown for seed production. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are

necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

PRECAUTIONS, RESTRICTIONS: Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

Do not feed or graze treated areas for 8 weeks following application.

8.12 Herbs

TYPES OF HERBS: Peppermint, spearmint

USE INSTRUCTIONS: This product may be used as a spot treatment in spearmint and peppermint. Apply spray-to-wet with hand-held equipment, such as backpack and knapsack sprayers, pump-up pressure sprayers, hand-guns, handwands or any other hand-held or motorized spray equipment used to direct the spray solution on to a limited area.

PRECAUTIONS. RESTRICTIONS: Allow at least 7 days between application and harvest. Further applications may be made in the same area at 30 day intervals. No more than one-tenth of any acre should be treated at one time. The crop receiving spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for this reason.

8.13 Pastures

TYPES OF PASTURES: Bahiagrass, bermudagrass, bluegrass, brome, fescue, orchardgrass, ryegrass, timothy, wheatgrass, allalfa and clover

TYPES OF APPLICATIONS: Spot treatment, wiper application, preplant, preemergence, pasture renovation

Spot treatment and Wiper application

USE INSTRUCTIONS: This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

PRECAUTIONS, RESTRICTIONS: For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Preplant, Preemergence and Pasture renovation

USE INSTRUCTIONS: This product may be applied prior to planting or emergence of forage grasses and legumes. In addition, this product may be used to control perennial pasture species listed on this label prior to re-planting.

PRECAUTIONS, RESTRICTIONS: Remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

8.14 Peanuts

TYPES OF APPLICATIONS: Preplant, preemergence, atplanting

USE INSTRUCTIONS: This product may be applied before, during or after planting peanuts. Applications must be made prior to the emergence of the crop.

8.15 Small Fruits and Berries

LABELEO CROPS: Blackberry, Blueberry, Boysenberry, Cranberry, Currant, Dewberry, Elderberry, Gooseberry, Huckleberry, Loganberry, Olallieberry, Raspberry (Black, Red), Youngberry

TYPES OF APPLICATIONS: Preplant, preemergence, directed spray (except cranberry), wiper application

CROPS

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USE INSTRUCTIONS: This product may be applied as a preplant or preemergence broadcast application or as a wiper application for crops listed in this section. Directed sprays may be applied to any crop except cranberries. For wick or wiper applicators, mix 1 gallon of this product in 4 gallons of water to prepare a 20 percent solution. In severe infestations, reduce equipment ground speed to ensure that adequate amounts of this product are wiped on the weeds. A second treatment in the opposite direction may be beneficial.

PRECAUTIONS, RESTRICTIONS: Do not permit herbicide solution to contact desirable vegetation, including green shoots, canes or foliage. Allow a minimum of 30 days between last application and harvest of cranberries. For other small fruits and berries, allow a minimum of 14 days between last application and harvest.

8.16 Soybeans

TYPES OF APPLICATIONS: Preplant, preemergence, at-planting, spot freatment, preharvest, selective equipment, hooded sprayers

Preplant, Preemergence and At-planting

USE INSTRUCTIONS: This product may be applied before, during or after planting soybeans. Applications must be made prior to emergence of the crop.

The following tank mixtures may be applied before, during or after planting in conventional tillage systems, into a cover crop, established sod or in previous crop residue.

| CANOPYTM COMMAND DUAL DUAL II FRONTIER FUSIONIM GEMINITH |
|--|
| GEMINI™ |
| |

LASSO/ALACHLOR PROWL
LINEX PURSUI
LOROX/LINURON PURSUI
LOROX PLUS SCEPTE.
MICRO-TECH SENCOR
PARTNER SOUADE
PREVIEW™ TURBOT

PROWL
PURSUITIM
PURSUIT PLUS
SCEPTERIM
SENCORTM/LEXONETM
SOUADRONIM
TURBOTM

For improved burndown, this product may be tank-mixed with 2,4-D or 2,4-D8. See the 2,4-D label for intervals between application and planting.

Annual weeds: For difficult-to-control weeds such as fall panicum, barnyardgrass, crabgrass, shattercane and broadleat signalgrass up to 2 inches tall, and Pennsylvania smartweed up to 6 inches tall, apply this product at 2 pints per acre in these tank mixtures. For other labeled annual weeds, apply 1 to 1.5 pints of this product per acre when weeds are less than 6 inches tall, and 2 to 3 pints when weeds are over 6 inches tall.

PRECAUTIONS, RESTRICTIONS: The tank mix recommendations in this section are not registered in California.

Spot treatment

USE INSTRUCTIONS: For spot treatments, apply this product prior to initial pod set in soybeans.

PRECAUTIONS, RESTRICTIONS: Do not treat more than 10 percent of the total field area to be harvested. The crop receiving spray in treated area will be killed. Take care to avoid drift or spray outside target area for the same reason.

Preharves

USE INSTRUCTIONS: This product provides weed control when applied prior to harvest of soybeans.

Apply at rates given in the annual, perennial and woody brush tables. This product may be applied using either aerial or ground spray equipment. For ground applications, apply this product in 10 to 20 gallons of water per acre. For aerial applications, apply this product in 3 to 10 gallons of water per acre.

Apply after pods have set and lost all green color. Allow a minimum of 7 days between application and harvest of soybeans. Care should be taken to avoid excessive seed shatter loss due to ground application equipment.

PRECAUTIONS, RESTRICTIONS: Do not graze or harvest treated crop for livestock feed within 25 days of last preharvest application. DO NOT APPLY MORE THAN 6 QUARTS

PER ACRE OF THIS PRODUCT FOR PREHARVEST APPLICA-TIONS. DO NOT APPLY MORE THAN 1 QUART PER ACRE OF THIS PRODUCT BY AIR. Do not apply to soybeans grown for seed as a reduction in germination or vigor may occur.

Selective equipment:

USE INSTRUCTIONS: This product may be applied through recirculating sprayers, shielded applicators, hooded sprayers, wiper applicators or sponge bars in soybeans. Allow at least 7 days between application and harvest.

PRECAUTIONS. RESTRICTIONS: See the "SELECTIVE EQUIPMENT" part of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

8.17 Sugarcane

TYPES OF APPLICATIONS: Preplant, preemergence, spot treatment, fallow, hooded sprayers

Preplant, Preemergence

USE INSTRUCTIONS: This product may be applied in or around sugarcane fields or in fields prior to the emergence of plant cane.

PRECAUTIONS, RESTRICTIONS: Do not apply to vegetation in or around ditches, canals or ponds containing water to be used for irrigation.

Spot treatment

USE INSTRUCTIONS: This product may be applied as a spot treatment in sugarcane. For control of volunteer or diseased sugarcane, make a 1 percent solution of this product in water and spray to wet the foliage of vegetation to be controlled. Volunteer or diseased sugarcane should have at least 7 new leaves.

PRECAUTIONS, RESTRICTIONS: Avoid spray contact with healthy cane plants since severe damage or destruction may result. Do not feed or graze treated sugarcane foliage following application.

Fallow treatments

USE INSTRUCTIONS: This product may be used as a replacement for tiliage in fields that are fying fallow between sugarcane crops. This product may also be used to remove the last stubble of ration cane. For removal of last stubble of ration cane, apply 4 to 5 quarts of this product in 10 to 40 gallons of water per acre to new growth having at least 7 new leaves. Allow 7 or more days after application before tillage.

Hooded sprayers

USE INSTRUCTIONS: This product may be used through hooded sprayers for weed control between the rows of sugarcane. A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution.

Minimize the potential for spray particles to escape from under the hood by operating the sprayer at appropriate ground speeds, nozzle pressures and wind speeds. Operation on rough or sloping ground may result in spray particles escaping from the hood.

When applying to sugarcane that is grown on raised beds, ensure that the hood is designed to completely enclose the spray. If necessary, extend the front and rear flaps of the hoods to reach the ground in furrows between the rows.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting the crop. Contact of this product in any manner to any vegetation to which treatment is not intended may cause damage. Such damage shall be the sole responsibility of the applicator.

PRECAUTIONS, RESTRICTIONS: Do not allow treated weeds to come into contact with the crop. Droplets, mist, foam or splatter of the herbicide solution settling on the crop may result in discoloration, stunting or destruction.

8.18 Sunflowers

TYPES OF APPLICATIONS: Preplant, preemergence

USE INSTRUCTIONS: This product may be applied before, during or after planting sunflowers. Applications must be made prior to emergence of the crop.

PRECAUTIONS, RESTRICTIONS: Do not apply more than 3 quart of this product per acre for sunflowers. Make only one preplant or preemergent application per year. Do not feed or graze sunflower forage following application of this product.

8.19 Tree and Vine Crops (General)

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment (except kiwl), perennial grass suppression

NOTE: THIS SECTION GIVES GENERAL DIRECTIONS THAT APPLY TO ALL CITRUS CROPS, TREE FRUITS, TREE NUTS AND VINE CROPS. SEE THE INDIVIDUAL CROP SECTIONS FOR INSTRUCTIONS, PREHARVEST INTERVALS, PRECAUTIONS AND RESTRICTIONS FOR SPECIFIC CROPS.

This product may be applied in middles, strips and for general weed control in established citrus groves, tree fruit and tree nut orchards, and vineyards. Apply at 1 pint to 5 quarts per acre. Repeat applications may be made up to a maximum of 10.6 quarts per acre per year. This product may also be used for site preparation prior to transplanting these crops. Allow a minimum of 3 days between application and transplanting. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high-volume wards, lances, orchard guns or with wiper applicator equipment, except as directed.

Middles (between rows)

USE INSTRUCTIONS: This product will control or suppress annual and perennial weeds and ground covers growing between the rows of labeled tree and vine crops. If weeds are under drought stress, irrigate prior to application. Reduced control may result if weeds have been moved prior to application.

A tank mixture of this product plus Goal 2XL may be used for annual weeds in middles between rows of citrus crops, tree fruits, tree nuts and vine crops. This mixture is recommended when weeds are stressed or growing in dense populations. 16 to 32 oz/A of this product plus 3 to 12 oz/A of Goal 2XL will control annual weeds with a maximum height or diameter of 6 inches, including crabgrass, hairy fleabane (Conyza bonariensis), common groundsel, junglerice, common lambsquarters, redroot pigweed, London rocket, common ryegrass, shepherdspurse, annual sowthistle, common cheeseweed (malva), filaree (suppression), horseweed/marestail (Conyza canadensis), stinging nettle and common purslane (suppression). 12 to 32 oz/A of this product plus 3 to 12 oz/A of Goal 2XL will control common cheeseweed (malva) with a maximum height or diameter of 3 inches.

Strips (in rows)

USE INSTRUCTIONS: This product may be applied in rows of tree or vine crops and may also be tank mixed with the following products:

| lonoving products. | |
|--------------------|----------------------|
| DEVRINOL™ 50 DF | PRINCEP™ CALIBER™ 90 |
| DIREX™ 4L | SIMAZINE 4L |
| GOAL 2XL | SIMAZINE 80W |
| KARMEX DF | SIM-TROL™ 4L |
| KROVAR I | SOLICAM™ DF |
| KROVAR II | SÜRFLAN ™ AS |
| PROWL | SURFLAN 75W |

Do not apply these tank mixtures in Puerto Rico.

Refer to the individual product labels for specific crops, rates, geographic restrictions and precautionary statements.

Apply 1 pint to 5 quarts of this product per acre in these tank mixtures. Use rates at the higher end of the recommended rate range when weeds are stressed, growing in dense populations or are greater than 12 inches tall.

Perennial grass suppression

This product will suppress perennial grasses such as bahiagrass, bermudagrass, tall fescue, orchardgrass, Kentucky bluegrass, and quackgrass that are grown as ground covers in tree and vine crops.

For suppression of tall tescue, fine fescue, orchardgrass and quackgrass, apply 8 fluid ounces of this product in 10 to 20 gallons of water per acre.

For suppression of Kentucky bluegrass covers, apply 6 fluid ounces of this product per acre. Do not add ammonium sulfate.

For best results, mow cool season grass covers in the spring to even their height and apply this product 3 to 4 days after mowing.

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid cunces of this product in 10 to 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

For burndown of bermudagrass, apply 1 to 2 quarts of this product in 3 to 20 gallons of water per acre. Use this treatment only if reduction of the bermudagrass stand can be tolerated. When burndown is required prior to harvest, allow at least 21 days to ensure sufficient time for burndown to occur.

For suppression of bermudagrass, apply 6 to 16 fluid ounces of this product per acre east of the Rocky Mountains and 16

fluid ounces of this product per acre west of the Rocky Mountains. Apply in a total spray volume of 3 to 20 gallons per acre, no sooner than 1 to 2 weeks after full green-up. If the bermudagrass is mowed prior to application, maintain a minimum of 3 inches in height. Sequential applications may be made when regrowth occurs and bermudagrass injury and stand reduction can be tolerated. East of the Rocky Mountains, rates of 6 to 10 fluid ounces per acre should be used in shaded conditions or where a lesser degree of suppression is desired.

Selective equipment

Shielded and wiper applicators may be used in tree crops and grapes. Refer to the individual crop sections for time interval between application and harvest.

GENERAL PRECAUTIONS/RESTRICTIONS: For all uses in this section.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF TREES AND VINES. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

AVOID PAINTING CUT STUMPS WITH THIS PRODUCT AS INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT TREES.

8.20 Tree Fruits

LABELEO CROPS: Apple, Apricot, Cherry (Sweet, Sour), Crabapple, Loquat, Mayhaw, Nectarine, Olive, Peach, Pear, Plum/Prune (All), Quince

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING

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DIRECTIONS ARE SPECIFIC TO TREE FRUITS.

Restrictions on application equipment

For cherries, any application equipment listed in this section may be used in all states.

For citron and olives, apply as a post-directed spray only.

Any application equipment listed in this section may be used in apricots, nectarines, peaches and plums/prunes growing in Arizona, California, Colorado, Idaho, Kansas, Kentucky, New Jersey, North Dakota, Oklahoma, Oregon, Texas, Utah and Washington, except for peaches grown in the states specified in the following paragraph. In all other states use wiper equipment only.

For PEACHES grown in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee only, apply with a shielded boom sprayer or shielded wiper applicator, which prevents any contact of this product with the foliage or bark of trees. Apply no later than 90 days after first bloom. Applications made after this time may result in severe damage. Remove suckers and low-hanging limbs at least 10 days prior to application. Avoid applications near trees with recent pruning wounds or other mechanical injury. Apply only near trees which have been planted in the orchard for 2 or more years. EXTREME CARE MUST BE TAKEN TO ENSURE NO PART OF THE PEACH TREE IS CONTACTED.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 1 day between last application and harvest for apple, crabapple, loquat, mayhaw, pear, quince.

Allow a minimum of 17 days between last application and harvest for apricot, cherry, nectarine, olive, peach, plum/prune.

Q.21 Tree Nuts

LABELED CROPS: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Fitbert (Hazelnut), Hickory nut, Macadamia, Pecan, Pistachio, Walnut (Black, English)

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and travest of tree nuts, except pistachio nuts. For pistachio nuts allow a minimum of 21 days between last application and harvest.

8.22 Tropical Crops

LABELED CROPS: Atemoya, Avocado, Banana, Barbados Cherry (acerola), Breadfruit, Canistel, Carambola, Cherimoya, Cocoa beans, Coconuts, Cottee, Oates, Figs, Guava, Jaboticaba, Jackfruit, Longan, Lychee, Mango, Marmaladebox (genip), Papaya, Passion fruit, Persimmon, Pineapple, Plantain, Pomegranate, Sapodilla, Sapote (black, marney, white), Soursop, Sugar apple, Tamarind, Tea.

USE INSTRUCTIONS: This product may be applied for general weed control or for site preparation prior to transplanting crops listed in this section. In coffee and banana, delay applications 3 months after transplanting to allow the new coffee or banana plant to become established.

PRECALITIONS/RESTRICTIONS: Allow a minimum of 14 days between last application and harvest of acerola, afemoya, avocado, breadfruit, canistel, carambola, cherimoya, cocoa beans, coconuts, dates, figs, genip, jaboticaba, jackfruit, longan, lychee, mango, mayhaw, passion fruit, persimmon; pomegranate, sapodilla, sapote, soursop, sugar apple, tamarind, and tea.

Allow a minimum of 28 days between last application and harvest of plantain and coffee.

Allow a minimum of 1 day between last application and harvest of banana, guava and papaya.

CROPS

Do not feed or graze treated pineapple forage following application.

8.23 Vegetable Crops

LABELEO CROPS: Amaranth, Arrugula, Artichoke (Jerusalem), Beans (AII), Beet greens, Garden Beets, Broccoli (AII), Brussels sprouts, Cabbage (All), Cabbage (Chinese), Cantaloupe, Cardoon, Cavalo Broccolo, Carrot, Cauliflower, Casaba melon, Celery, Celery (Chinese), Celeriac, Celtuce, Chard (Swiss), Chayote, Chervil, Chick peas, Chicory, Chrysanthemum, Collards, Corn salad, Crenshaw melon, Cress, Cucumber, Dandelion, Dock (sorret), Eggplant, Endive, Fennel (florence), Garlic, Gherkin, Ginseng, Gourds, Ground cherry, Guar, Honeydew melon, Honey ball melon, Horseradish, Kale, Kohlrabi, Leek, Lentils, Lettuce, Mango meion, Meions (All), Mizuna, Muskmeion, Mustard greens, Okra, Onion, Oriental radish, Parsley, Parsnips, Peas (All). Pepinos, Pepper (All), Persian melon, Potato (trish), Pumpkin, Purslane, Radish, Rape greens, Rhubarb, Rutabaga, Salsify, Shallot, Spinach (All), Mustard Spinach, Squash (Summer, Winter), Sugar beets, Sweet potato, Tomatillo, Tomato, Tumip, Watercress, Watermelon, Yams.

USE INSTRUCTIONS: This product may be applied prior to the emergence of direct seeded vegetables or prior to transplanting vegetables.

PRECAUTIONS, RESTRICTIONS: When applying this product prior to transplanting crops into plastic mutch, care must be taken to remove residues of this product from the plastic prior to transplanting. Residues can be removed by 0.5 inch natural rainfall or by applying water via a sprinkler system.

For the following crops, apply only prior to planting. Allow at feast 3 days between application and planting of cantaloupe, casaba meion, crenshaw meion, cucumber, eggplant, garlic, gherkin, gourds, ground cherry, honeydew meion, honey ball meion, mango meion, meions (all), muskmeion, pepper (all), persian meion, pumpkin, squash (summer, winter), fomatillo, tomato, watercress, and watermeion.

Wiper applicators may be used in rutabagas. Allow at least 14 days between application and harvest.

8.24 Vine Crops

LABELED CROPS: Grapes (raisin, table, wine), Kiwi fruit TYPES OF APPLICATIONS: General weed control, middles (between rows), strips (in row), selective equipment

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE, NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIREC-TIONS ARE SPECIFIC TO VINE CROPS.

Applications should not be made when green shoots, canes or foliage are in the spray zone.

In the northeast and Great Lakes regions, applications must be made prior to the end of bloom stage of grapes to avoid injury, or make applications with shielded sprayers or wiper equipment.

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 14 days between last application and harvest.

9.0 FARMSTEADS

TYPES OF APPLICATIONS: General nonselective weed control, trim-and-edge, chemical mowing, cut stumps, habitat management

9.1 General nonselective weed control, Trim-and-edge

USE INSTRUCTIONS: This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

FARMSTEADS

This product may be tank mixed with the following products. Refer to these product labets for approved farmstead sites and application rates. For annual weeds, use 1 quart per acre of this product when weeds are less than 6 inches tall and 1.5 quarts per acre when weeds are greater than 6 inches tall. For perennial weeds, apply 2 to 5 quarts per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section of this label for recommended rates.

Banvel Diuron Princep Caliber 90 Simazine Simazine 80W Surflan 75W Surflan AS 2.4-0

Simazine 4L

Banvel and 2,4-D mixtures may not be applied by air in California

9.2 Chemical mowing

USE INSTRUCTIONS: This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Apply this product at a rate of 6 to 8 fluid ounces per acre. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

PRECAUTIONS, RESTRICTIONS: Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

9.3 Cut Stumps

TYPES OF APPLICATION: Treating cut stumps in any noncrop site listed on this label

USE INSTRUCTIONS: This product will control regrowth of cut stumps and resprouts of many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire camblum. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately after cutting. Defays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder Eucalyptus Madrone Oak Salt-cedar Sweetgum Tan oak Willow

Reed, glant

PRECAUTIONS, RESTRICTIONS: DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING MAY OCCUR IN ADJACENT WOODY BRUSH OR TREES.

9.4 Habitat Management

TYPES OF USES: Habitat restoration and maintenance, wildlife food plots

Habitat restoration and maintenance

USE INSTRUCTIONS: This product may be used to control exotic and other undesirable vegetation in habitat management areas. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broadspectrum vegetation control requirements in habitat management areas. Spot treatments

can be made to selectively remove unwanted plants for habitat maintenance and enhancement. The tank mixtures listed in this section of the label may be used for habitat restoration and maintenance.

Wildlife food plots

USE INSTRUCTIONS: This product may be used as a site preparation treatment to control annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage.

10.0 ANNUAL WEEDS **RATE TABLES** Alphabetically by Species

Water carrier volumes of 3 to 10 gallons per acre for ground applications and 3 to 5 gallons per acre for aerial applications are recommended.

Apply to actively growing annual weeds.

Do not tank mix with soil residual herbicides when using these rates unless otherwise specified.

For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

For those rates less than 48 fluid ounces per acre, this product may be used up to 48 fluid ounces per acre where heavy weed densities exist.

Refer to this map for location of the regions listed in the annual weed tables below.



ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

(Fluid Ounces Per Acre) 12 15 24 32 40 48 Weed Species Region Maximum Height/Length

| Annoda spurred 3.15 | 42.5 | 4.1°1 | ر 2. | 3. | 5. | 8" | |
|---------------------|------------|--------------|------|------|--------------------|-----|--|
| Barley | - | 18" | | - | - | - | |
| Barnyardgrass Sou | in Section | 3. | 52 | 7,5 | 9- | 12 | |
| Nort | th - | - | 6" | 12" | - | - | |
| Bittercress 51.6 | | .12°. | 20 | V | | - | |
| Bluegrass, annual | - | 10* | • . | | - | - | |
| Brassica, fivehook | | | 74 | 60 | | 3°2 | |
| Brome, downy | 6" | - | - | - | | | |
| Brome; Japanese | | 6. | | 24 ; | # = 1 . | | |
| Browntop panicum | - | 5" | 8* | 12" | - | 24" | |
| Burcucumper | | | 67 | 12 |) z :- | | |
| 8uttercup | | 12* | 20* | - | - | - | |
| Carolina foxtalicas | 77 | 207 | 3 | | i di | | |
| Carolina geranium | • | | -, | 4" | - | 9* | |
| | - 607 | <u> 7792</u> | en a | 127 | | 375 | |

6" 20"

Cheat

ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

| _ | | • | • | ۰ | • |
|---|---|----|---|---|---|
| | F | la | t | p | |

| | | (F | luid (| | es P | er Ac | re) |
|-----------------------------------|------------------|--------------|--------------------|----------------|----------------|------------|------------|
| Weed Species | Region | 12 | | | | | |
| 0 | | Ma | | | leigh | t/Len | igth |
| Chervil Chickweed | | - | 20° 12° | 104 | - | - | - |
| Cocklebur | | - | 12 | | 24" | | - |
| Copperleaf, hopho | irnbeam | _ | 1" | 2- | 3* | 4* | 6" |
| Copperleaf, Virgin | | ٠. ٠ | 1" | | 3- | 4. | 6* |
| Com | | - | 12" | | - | - | - |
| Corn speedwell | 7. 7. | - | 12" | | - | - | - |
| Crabgrass | - 1 | - ** | 12" | 18" | - | - | - |
| Cutlear evening primrose | | Ţ, | | · - 1 | 3* | - | 6* |
| Dwarfdandelion | | | 20 | _ | | - | _ |
| Eastern mannagra | SS. | 1 | 8- | 12* | <u>-</u> - | - | - |
| Eclipta | | - | 4 | 8" | 12" | | - |
| Fall panicum , | South | | 4" | | 8" | 12" | 24" |
| Felendaria : | North | - 41 | 6" | 12" | 18 | - | • |
| Falsedandelion | d | - | 20 | | | • | • |
| Falseflax, smallsee Fiddleneck | :u | :-] | 12 | | 6° | - | 12" |
| Field pennycress | | | 6 | 12" | | | - |
| Filaree | | <u> </u> | - - - , | • | | _ | 12" |
| Fleabane, annual | | - | 6" | 20" | | - | - |
| Fleabane, hairy | | | 6" | | gran. | .÷, | - |
| (Conyza bonarie | nsis) | - | <u> </u> | | · (. | ī., | |
| Fleabane, rough Florida púsley | i e nijerana | ery: | . . | _b″ 53-0 | 12" | · · · | • |
| Foxtail | South | | Q# | 12 | 127. 207 | | |
| | North | 18* | 18-∓5 | | ? : | | - |
| Goatgrass, jointed | | - | 6 | | | - | - |
| Goosegrass | | | 3" - | 5". | 8" | - | 18" |
| Grain sorghum (m | ilo) | • | 67 | 12- | 20- | - | - |
| | | | | | | | |
| | •- | | - | | | | |
| Groundsel, commo | on's State | 1 | 6 | 2. | | - | - |
| Hemp sesbania | | - • | - | 2" | 4" | 6* | 8* |
| Henbit | 1004 | | | 270 | 6 | | 20* |
| Horseweed/ | South | | • | 12* | 30" | - | - |
| Marestail | | | | | | | |
| (Conyza | North | - | 6" | 12* | 18* | • | - |
| canadensis) Itchgrass | 4000 | | 6.7 | 35. | ia- | | |
| Jimsonweed | and with all the | - | r week. | # = /%, | 6 | | 12- |
| Johnsongrass, | South | ŦV, | 3.5 | 18* | 330 | 92.7 | : <u>-</u> |
| seedling | | | | | | | |
| | North | i de | 12 | | | -2 | - |
| Junglerice | والمراجعة والأوا | – Eray∂gu | 3" | 5" "0"" | 7° :متحرد | 9" | 12" |
| Knotweed | | د و سا | to 6 | 12 | : <u> </u> Z-: | | 20" |
| Lambsquarters | 7/25/202 | | 6 | 8- | 12* | 9 - - | 20" |
| Little harley | | - | 20" | - | - | - | - |
| London rocket | S. C. S. | | 67 | | 7 | | :#= ·· |
| Mayweed | | - | - | 2- | 67 | 12" | 18 |
| Marningglory (Ipo | moea spp. | | | 2 : | 4 | - | 6- |
| Mustard, blue Mustard, tansy** | £ | 6 | 12 | 200 | | | |
| Mustard, tumble | | 6" | 14 : | žV. | | _ | |
| Mustard, wild | 20.00 | | 12 | 18* | | 1.2 | - |
| Mightehade black | | _ | 6" | 12" | - | - | - |
| Nightshade, hairy | | | 6- | 12 | | + | - |
| Oats | | - | - | 6" | 20" | - | - |
| Pigweed | - 100 | | | | | · - | - |
| Plains/Tickseed | | - | 5* | 12 | 18" | - | - |
| coreopsis Prickly lettuce | - | 219 | 6*1 | 12* | 20- | . 25 | - |
| Purstane | | - | - | - | 6* | - | 12" |
| Ragweed, common | South | Ţ | 4** | 6" | 8 | 12 | 11* |
| | North | | | | 18* | | - |
| Ragweed, giant | | | 47.5 | 1476 | 4 | - | 11 |

LEVEL TO THE PROPERTY OF THE P

ANNUAL WEEDS RATE TABLE, NORTH AND SOUTH REGIONS

Rate

| | | (F | luid I | Ounc | es Pi | er Ac | re) |
|--------------------------------|----------------------|-------|--------|------|--------|--------------|-------------------|
| Weed Species | Region | 12 | 16 | 24 | 32 | 40 | 48 |
| | | Ma | xim | m H | eigh: | /Len | glh |
| Russian thistle | | 1 | | | 5" | - | ٠ |
| Rye | South | - | 6" | 20- | 60 | - | - |
| Simple St. | North: ~ | 2 | 18" | 18** | 1273 | J-1 | - |
| Ryegrass | | - | - | 12 | 67 | | 7 " + |
| Sandbur, field | T | _12" | ÷. | | O.F. | · "A . | - · . |
| Shattercane | | - | 12" | 18" | - ' | - · | |
| Shepherdspurse* | द्वार प्रस्तुव्य | 70 | 6". | 12 | | 7.7. | ** <u>*</u> Y |
| Sicklepod | , - | - ' | | 2" | 4" | - | 8" |
| Signalgrass, broad | ileaf | r-200 | 3" | 5 | 7.7 | 9 | 12 |
| Smartweed, ladyst | :humb | • | 4" | 6 | 8* | | 12 |
| Smartweed, Penns | ylvania | | 4" | 6. | 8 | 7 | 12" |
| Sowthistle, annual | | | - | - | 6* | | 127 |
| Spanishneedles - | | 37% | 17 | | 83 | 3 25, | 18" |
| Speedwell, purslar | 18 | - | 12 | - | - | - | _ |
| Speedwell, purslar Sprangletop | 1500年夏 | N.C. | 67. | 12* | 20 | 7-5. | . <u> </u> |
| Spurge, prostrate | | | 6" | 12 | 20 | - ' | - |
| Spurge, spotted | Mill (TS f | r | 6 | 125 | 20° ie | . فيدج | 1 |
| Spurry, umbrella | | 6" | - ' | - | | | • |
| Stinkgrass | 32.70-75 | 12 | | | 1 | | 1 |
| Sunflower | | - | 12- | 18" | - | - | - |
| Teaweed/ Prickly's | ida 🚟 🦮 | · | 1 | 2 | 3" | 4 | 6 |
| Texas panicum | | - | 6" | 8" | 12" | - | 24" |
| Velvetleat 32 | South, 32 | 71. 5 | 2. | 37. | 4 : | 5 | 8 1 |
| - | North | - | 3" | 6" | 12" | - | - |
| Virginia pepperwee | $d \in \mathbb{R}^2$ | | 18', | | 1. | | دوبروس داد برا |
| Waterhemp | | - | - | 6" | 12. | ÷ . | - |
| Wheat | South: 🚣 | 5.2 | 6.4 | 30 | | | 772 |
| | North | | 18* | 18"+ | - | - | - |
| Wheat, (overwinter | ed) 🚎 📜 | 77. | θ. | 183 | | | 27, |
| Wild oats | | - | 12" | - | - | - | - |
| | | | | | | | |

| Witchgrass 12 | |
|---|------------------|
| Woolly cupgrass 6" 12" | - ,2 <u>1</u> |
| Woolly cupgrass 6° 12' Yellow rocket 2' 20' | نک ی |
| I Do not treat knichia in the button stage. | |

ANNUAL WEEDS RATE TABLE, WEST REGION

Rate
(Fluid Ounces Per Acre)
12 16 24 32 48
Maximum Height/Length **Weed Species**

| 6" | e merend | e Parto≪a | eren (r | 741 YT. |
|-------------|-------------|--|--|---------------------------------------|
| 6. | 10. | | G. N. | |
| | 6" | | ्र जाहर, १९३ | - :=:157 |
| <u>: 67</u> | - 2-1 | 2.00 | | |
| - | 12" | - | - | - |
| ALTON 100 | 67. | 9,50 | نتنت | |
| - | 6" | | - | ·* |
| | 12 | V | 4 | 1 |
| | 6" | | | - |
| 7 | 12.5 | | , in . | |
| - | 12" | • | - | • |
| 200.00 | 12 | | | |
| | 12" | - | | • |
| V | · 6 | | | |
| | - | - | - | 12" |
| 3 | 6.7 | 3.74 | 7 | |
| 42.16 | X | 3 2 3 | · · | |
| _ | | - | 12" | - |
| 18 E | 6. az. t | or up t | o 12: | ه تناز (|
| - | 6" | - | - " | - |
| 79. T. | - E - 3 | 7 . (4.) | K | 3-1-25 |
| _ | 6" | | - | |
| 75757.43 | 1200 | - T | ₽#4.¥ | |
| | CYA'' | | des. | XY? |
| SEALINE. | 12* | - 20 | | - |
| | | | | |
| | 6 | 6' 6' 6' 12' 6' 12' 12' 12' 12' 6' 6' 6' 6' 6' 6' 6' 6' 6' 6' 6' 6' 6' | 6' 6' 6' 12' 6' 12' 12' 12' 12' 12' 12' 12' 12' 12' 12 | 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 |

ANNUAL WEEDS RATE TABLE, WEST REGION

| | Rate | | | | | |
|----------------------------|-----------------------|----------|--------------------|------------|-----------|--|
| | (Fluid Qunces Per Acr | | | | | |
| Weed Species | 12 | 16 | 24 | 32 | 48 | |
| | Mar | r (in un | Heini | 1/Lec | nuth | |
| | | ·· *= | | | · W · · · | |
| Lambsquarters | | 6 | | 7.7 | - | |
| London rocket | - | 6. | | - | - | |
| Momingglory (Ipomoca spp.) | - 1 | 2* | • | - | - | |
| Mustard, blue | 6 | - | ٠ | • | | |
| Mustard, tansy | 6°. | - | | - | | |
| Mustard, tumble | 6* | - | | - | - | |
| Mustard, wild | 6* | | * • <u>· ·</u> | ·- | - | |
| Pigweed | | 12" | | • | | |
| Rye - | 12* | | ٠. ٠ | _ | <u>:</u> | |
| Ryegrass, Italian | | 6 | | | - | |
| Sandbur, field | 12" | | - 1377 | (. | | |
| Shattercane | 12-` | - | - | - | • | |
| Shepherdspurse | | . 6* | 727 | · · | -` | |
| Sowthistle, annual | | 6* | ` | - | | |
| Spurge, annual | 12 W | 6 | | ٠. | - | |
| Stinkgrass | 12 | - | - 4 | | - | |
| Texas panicum | - <u>-</u> - | 12* | - | _ | - | |
| Wheat | 18* | ~ | | | - | |
| Wild oats | - | 312° - 3 | 4 | | | |
| Witchgrass | ٠. ٠.٠ | 12" | د من ^{ات} | | | |
| THUNGIASS | - | 12 | | - | - | |

¹ For control of Downy brome in no-till systems, use 16 fluid ounces per acre.

10.1 Annual Weeds—Water Carrier Volumes of 10 to 40 Gallons Per Acre

Apply 1 to 1.5 quarts of this product per acre. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall.

These rates will provide control of weeds listed in the annual weed control tables when water carrier volumes are 10 to 40 gailons per acre for ground applications.

10-2 Annual Weeds—Tank Mixtures with 2,4-D or Banvel

12 to 18 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2.4-D per acre will control the following weeds with the maximum height or length indicated: 6°—prickly lettuce, marestail/horseweed (Conyza canadensis), morningglory (Ipomoea spp.), kochia (Banvel only); 12°—cocklebur, lambsquarters, pigweed, Russian thistie.

16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre will control the following weeds when they are a maximum height or length of 6 inches: common ragweed, giant ragweed, Pennsylvania smartweed, and velvetleaf.

12 fluid ounces of this product plus 0.25 pound a.i. of Banvel or 0.5 pound a.i. of 2.4-D per acre will control foxtail up to 18*.

Refer to the specific product labels for crop rotation restrictions and cautionary statements of all products used in tank mixtures. Some crop injury may occur if Banvel is applied within 45 days of planting.

DO NOT APPLY BANVEL OR 2,4-D TANK MIXTURES BY AIR IN CALIFORNIA.

1.0 PERENNIAL WEEDS RATE TABLE Alphabetically by Species

Apply to actively growing perennial weeds.

NOTE: If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. Repeat treatments must be made prior to crop emergence.

Unless otherwise stated, allow 7 or more days after application before tillage.

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

For hand-held sprayers, prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

| Abial are | | | and or of | a i Sitra 📑 | |
|-----------|--------------------------|------------|------------------|-------------|-------|
| Desired | AMI ، سروند | DUNT OF IN | _ սու Պույսու | ear, | 10% |
| Volume - | | 13276 | 270 | 614.02 | 13.07 |
| . 4 Cal | 24 nz 114 07 | 2 02 | Z73 UZ | 01100 | |
| 25 Gal | 1 pt1 qt | 11% QT - | 2 gt | 5 UL | 10 00 |
| | | | | | |
| 1367 | 2 qt 1 yau 2 tablespo | ions = 1, | ∐niq on⊔ | ice | jar e |
| 1- | and the second of | , , , | | | |

Weed Species

Volume (GPA)

.

(2%) 1550 3:10g (1.15) 2%

Make applications after the tast hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. Applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up.

Alligatorweed 4 3-20

Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain control.

Anise (lennel) Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth.

Bahiagrass

Apply when most plants have reached the early head stage.

Bentorass 15 10-20 For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application is recommended for best results.

Bermudagrass 3.5 3.20 2% For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

Bermudagrass-visita water (unidigrass) 1-1.15 5-10 2%

Apply 1.5 quarts of this product in 5 to 10 gallons of water per acre. Apply when water bermudagrass is 12 to 18 inches in length. Allow 7 or more days before tilling, flushing or flooding the field.

Fall applications only: Apply 1 quart of this product in 5 to 10 gallons of water per acre. Fallow fields should be tilled prior to application. Apply prior to frost on water bermudagrass that is 12 to 18 inches in length.

This product is not registered in California for use on water bermudagrass.

Birdweed field 12 52 A 3-20

Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth.

PERENNIAL WEEDS RATE

PERENNIAL WEEDS RATE TABLE 60

Weed Specie

Rate 'Water (QT/A) Volume (GPA)

Hand-Held) % Solution

For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are at or beyond full bloom. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost.

Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Banvel in 10 to 20 gallons of water per acre. Oo not apply by air.

For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D in 10 to 20 gallons of water per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth.

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2.4-D in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Apply by air in fallow and reduced tillage systems only. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length.

In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to bindweed that has reached a length of 12 loches or greater. Allow maximum weed emergence and runner growth. Allow 3 or more days after application before tillage.

Bluegrass, Kentucky, 1-2 3-40

2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Blueweed Texas 3-5 3-40

2%

Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when plants are at or beyond full bloom. New leaf development indicates active growth. For best results, apply in late summer or fall treatments must be applied before a killing frost.

Brackenfern 3-4 3-40

1-1-59

Apply to fully expanded fronds which are at least 18 inches long.

Bromegrass; smooth 1: 2 3: 40 2%

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Bursage; woolly-leaf 3-20 2%

For control, apply 2 quarts of this product plus 1 pint of Banvel per acre. For partial control, apply 1 quart of this product plus 1 pint of Banvel per acre. Apply when plants are producing new active growth which has been initiated by moisture for at least 2 weeks and when plants are at or beyond flowering.

Canaryorass reed 2.3-40 3-40 2%

For best results, apply when most plants have reached the bool-to-head stage of growth.

Canally 4 13 2 13 5 2 3 40

Apply when most plants have reached the early head stage.

Clover, red, white 3 3 5 3 20 2%

Apply when most plants have reached the early bud stage.

Cogongrass* | 10.40 | 2%.

Apply when cogongrass is at least 18 inches tall in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

PERENNIAL WEEDS RATE TABLE

PERENNIAL WEEDS RATE TABLE

Weed Species 3-20 Dallisgrass Apply when most plants have reached the early head stage 3-5 3-40 2% Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D in 3 to 10 gallons of water per acre. Dock, curty 3-5 3-40 Apply when most plants have reached the early bud stage of growth. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2.4-D in 3 to 10 gallons of water per acre. Dogbane, hemp 4 3-40 Apply when most plants have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late sum-For suppression, apply 18 fluid ounces of this product plus 0.5 pound a.i. of 2,4-0 in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for zerial applications. Delay applications until maximum emergence of dogbane has occurred. Fescue (except fail) \$3-5 - 3-20 2% Apply when most plants have reached the early head stage. Fescue, tall 1-3 3-40 2% Apply 3 quarts of this product per acre when most plants have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1 quart of this product in 3 to 10 gallons of water per acre. Apply to fescue in the fall when plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product will improve long-term control and control seedlings germinating after fall treatments or the following spring Guineagrass ... 3. 3.40 Apply when most plants have reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equip-Horsenettle 3-5 3-20 Apply when most plants have reached the early bud stage. Horseradish 4 3-40 2% Apply when most plants have reached the late bud to flower stage of growth, For best results, apply in late summer or fall. iceptant should be at or beyond the early bud stage of growth. Thorough coverage is necessary for best control. Jerusalem artichoke 3.5 3-20 2% Apply when most plants are in the early bud stage. Johnsongrass 2 0.53 3-40 1% 1% In annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre, in noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre. For best results, apply when most plants have reached the boot-tohead stage of growth or in the fall prior to trost. Allow 7 or more days after application before tillage. Do not tank-mix with residual

herbicides when using the 1 quart per acre rate.

For burndown of Johnsongrass, apply 1 pint of this product in 3 to 10 gallons of water per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before

Spot treatment (partial control or suppression)—Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete."

PERENNIAL WEEDS RATE TABLE

PERENNIAL **WEEDS RATE**

Weed Species Water Votume (GPA) (OT/A) Kikuyugrass 2-3 . 3-40 Spray when most kikuyugrass is at least 8 inches in height (3 or 4leaf stage of growth). Allow 3 or more days after application before Knapweed - 12/4 4 . . . 3-40 . . . Apply when most plants have reached the late bud to flower stage of growth. For best results, apply in late summer or fall.

Apply at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Lespedeza 3-5 3-20 2%

Apply when most plants have reached the early bud stage.

Milkweed; common 3 6 3 40 3 40 24

Apply when most plants have reached the late bud to flower stage of growth.

Muhly, wirestern 1-2 3-40 2%

Use 1 quart of this groduct in 3 to 10 gallons of water per acre, tise 2 quarts of this product when applying 10 to 40 gallons of water per acre or in pasture, sod, or noncrop areas. Spray when the wirestem multiy is 8 inches or more in height. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. Allow 3 or more days after application before tillage.

Mulletin, common 3-55 3-20 6. 2%...

Apply when most plants are in the early bud stage.

Napiergrass - 2 3-5 12-3-20 3 2 2%

Applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost.

Nutsedge: 0.5.3 3.40

Apply 3 quarts of this product per acre or apply a 1 to 2 percent solution for control of nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new outlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers.

Sequential applications: 1 to 2 quarts of this product in 3 to 10 gallons of water per acre will also provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control,

For partial control of existing plants, apply 1 pint to 2 quarts of this product in 3 to 40 gallons of water per acre. Treat when plants have 3 to 5 leaves and most are tess than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants.

Orchardonashi 4121 340

Apply 2 quarts of this product in 10 to 40 gallons of water per acre when most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation. apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height.

Orchardgrass sods going to no-till com: Apply 1 to 1.5 quarts of this product in 3 to 10 gallons of water per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results.

Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control.

PERENNIAL WEEDS RATE TABLE

PERENNIAL WEEDS RATE **Weed Species** (OT/A) Volume (GPA) Paragrass 3-5 3-20 Apply when most plants are in the early head stage. 10-40 **Phragmites** 3-5 1-2% For partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced controf. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeal treatments may be necessary to maintain control. Visual control symptoms will be slow to Paison hemlock Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. 1-3 3-40 In annual cropping systems, or in pastures and sods followed by deep tillage: Apply 1 quart of this product in 3 to 10 gallons of water per acre. For 10 to 40 gallons of water per acre, apply 2 quarts of this. product. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height. Do not till between harvest and fall applications or in fall or spring prior to spring application. Allow 3 or more days after application before tillage, in pastures or sods, use a moldboard glow for best results. In pastures, sods or noncrop areas where deep tillage does not follow application: Apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre when the quackgrass is greater than B inches tall.

Redvine 0.75-2 5-10 2% For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply recommended rates in 5 to 10 gallons of water per acre. Apply in late September or early October to plants which are at least 18 inches tall and have been growing 45 to 60 days since the fast tillage operation. Make applications at least 1 week before a killing frost. Reed, glant, when he was not a see 2%

Best results are obtained when applications are made in late summer to fall.

Ryegrass, perennial 1-3 3-40 1%

in annual cropping systems apply 1 to 2 quarts of this product per acre. Apply 1 quart of this product in 3 to 10 gallons of water per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. In noncrop, or areas where annual tillage (no-till) is not practiced, apply 2 to 3 quarts of this product in 10 to 40 gallons of water per acre.

For best results, apply when most plants have reached the boot-tohead stage of growth or in the fall prior to Irost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate.
Smartweed, swamp, 3-5, 3-40, 2%

Apply when most plants have reached the early bud stage of growth.

Also for control, apply 16 fluid ounces of this groduct plus 0.5 gound a.i. of 2,4-D in 3 to 10 gallons of water per acre in the late summer

Spurge leady 13-10 2%

For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.l. 2,4-D in 3 to 10 gallons of water per acre in the late summer or fall. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall.

Starthistle, yellows 2 2%

Best results are obtained when applications are made during the rosette, botting and early flower stages.

Sweet potato, wild 2%

Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

Thistle, artichoke

Partial control. Apply to plants that are at or beyond the bloom stage of growth. Repeat applications may be required.

PERENNIAL WEEDS RATE TABLE

2%

| Weed Species | - Rate | Water | Hand-Held | |
|--------------|--------|--------------|------------|---|
| | (QT/A) | Volume (GPA) | % Solution | è |

Thistle, Canada

2-3 3-40

Apply when most plants are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing trost. Allow 3 or more days after application

For suppression, apply 1 quart of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D, in 3 to 10 gallons of water per acre in the late summer or fall after harvest, moving or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 3 or more days after application before tillage.

2-3 3-40 - - - 2%* * - -

For best results, apply when most plants have reached the boot-tohead stage of growth.

Torpedograss 4-5

3-40 2%

For partial control. Apply when most plants are at or beyond the seedhead stage of growth. Repeat applications will be required to maintain control. Fall treatments must be applied before frost

'Trumpetcreeper

2 5-10 2%

Partial control. Apply in late September or October, to plants which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost

Vaseygrass 3-5 3-20 - 2%

Apply when most plants are in the early head stage.

Velvetgrass 3.5 3-20 2%

Apply when most plants are in the early head stage.

Wheatgrass, western 2-3 3-40 2%

For best results, apply when most plants have reached the boot-tohead stage of growth.

12.0 WOODY BRUSH AND TREES RATE TABLE Alphabetically by Species

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after truit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, moving or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a

| Weed Species | (QT/A) | Water Volume (GP | A) % Solution |
|-----------------|------------|---------------------|---|
| Alder | 3-4 | 3-40 | 1-1.5% |
| For control | | - / | 100,000 |
| Ash | 2-5 | 3-40 | 1-2% |
| Partial control | | • | • |
| Aspen, quaking | 2-3 | 3-40 73 73 | ##.1 ₅ 1.5% × ∴ |
| For control | | | Contraction for the state of the state of |

| WOODY BRUS | H AN | D TREES | 70 |
|---|--|--|--|
| | Rate (DT/A) 2-5 | Water | Hand-Held % Solution 1-2% |
| Partial control Beech | 2-5 | 3-40 | 1-2% |
| Partial control Birch | 2 | 3-40 | 1% |
| For control Blackberry For control. Make af maturity. Best results tate summer or fall, and until a killing tro | Applications of the control of the c | ons may also be long as stems a fall, blackberry | 1-1.5% have reached full leaf plications are made in emade after leaf drop are green. After berries can be controlled by at. For control of black-or as long as stems are on all nailons of water |

green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water berries after leaf drop and per acre.

| Blackgum | | .i5 | | |
|------------------------|--------|--|------------------|------|
| For control Bracken | 15.5 | 2-5 3-40 | | 2% |
| For control | | | - *** | |
| Broom; French | Scotch | الحداثين والمسا | | 5-2% |
| For control Buckwha | at, S | engenerale en en Length forsjoner f | | 2% |

California
Canto Control Con Cascara 2.5. 3.40 - 2.5. best results.

| Cascara 2 | 5: (|
|-----------------|--|
| Partial control | 115% |
| Catsclaw | And the second s |

Partial control

| Ceanothus 2-5 3-40 |
|--|
| Partial CONTROL |
| Chamise For control. Thorough coverage of toliage is necessary for best |
| For control, Indraugh contrage |
| results. |
| Cherry, bitters 532 3 3 40 (-1.5%) |

black, pin section 2.3 3-40. Coyota brush For control

For control. Apply when at least 50 percent of the new leaves are

Dogwood 3 2-5 3 40 1-2% Partial control Elderberry 3-401

日前 25 年3-40 第二 2% 4

Eucalyptus 2% For control of eucalyptus resprouts, apply when resprouts are 6 to

12 teet tall. Ensure complete coverage. Avoid application to drought-

Gorse 2.5 3.40

Hasarilla Partial control. Thorough coverage of foliage is necessary for best

Hawthorn 2.3 3.40

WOODY BRUSH AND TREES

| WOODY BRU | SH AN | D TREES | 72 |
|--|-------------|---------------------------|-------------------------|
| Weed Species | Rate | Water Volume (GPA) | Hand-Held % Solution |
| Hazel | 2 | 3-40 | 1% |
| For control | | | |
| Hickory - | 2-5 | 3-40 | 1-2% |
| Partial control | | • | |
| Honeysuckle | 3-4 | 3-40 | 1-1.5% |
| For control | | • | · |
| Hombeam, American | 2-5 | 3-40. | 1-2% |
| Partial control | | | ****** |
| Kudzu | 4 | 3-40 | 2% |
| For control. Repeat appi | | | |
| Locust, black | 2-4 | 3-40 | 1-2% 🖔 |
| Partial control | | • | |
| Madrone resprouts | | - , <u></u> | 2% |
| Partial control. Apply tresults are obtained with | | | |
| Manzanita | 2-5 | 3-40 | 1-2% |
| Partial control | | | |
| Maple, red | 2-4 | 3-40 | 1-1.5% |
| For control, apply a 1 to cent of the new leaves a to 4 quarts of this produ | re fully de | veloped. For partia e. | il control, apply 2 |
| Maple, sugar | | _ | 1-1.5% |
| For control. Apply when | n at least | | |

Monkey flower 1-2%

Partial control. Thorough coverage of foliage is necessary for best results.

Oak; black, white 2-4 3-40 . 1-2% Partial control

fully developed.

| Oak, post | 3-4 | ¯3-40 | 医11.5%事则 |
|---|------------------|--------------------|-----------------------------|
| For control | | | |
| Dak; northern, pin | | | 1.15% |
| | | | nt of the new leaves are |
| Date southern red | 2-3 | 3-40 | 1:1.5% |
| For control | , · · · | | 20112. 222. 22 |
| Persimmon """ | 2-5 | 3-40 | 1-2% |
| Partial control | | | |
| Pine for control | 2-5 | 3-40 | 1-2% |
| -Poison ivv/ | | | ne an gan e |
| Poison oak | 4-5 | 3-40 | 2% |
| | | | rired to maintain control. |
| Fall treatments must be | | | |
| Poplar, yellow 5/27 | 2-5 | 3-40 | 1.2% |
| Partial control | | | |
| Redbud, eastern | 2-5 | "3 - 40 | 1-2% |
| For control | | . | |
| - Rose, multiflora | - 2 | 3-40 | 1% |
| For control, Treatments teaf-eating insects. | should t | be made pri | or to leaf deterioration by |
| Russian olive | 2-5 | 3-40 | 1-2% |
| Partial control | • | | |
| Sage, black | , - - | - | . 1% |
| For control. Thorough results. | i covetai | ge of foliag | e is necessary for best |

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| | Rate (GT/A | Water) Volume (| Hand-Held GPA) % Solution |
|--|---------------------------|--------------------------------------|---|
| Sage brush, California | _ | _ | 1% |
| For control, Thorough | covera | ge of foliage | s is necessary for best |
| Salmonberry | 2 | 3-40 | 1% |
| For control | | | |
| Salt-cedar | 2-5 | 3-40 | 1-2% |
| For controt | | | |
| Sassatras | 2-5 | 3-40 | 1-2% |
| Partial control | | | |
| Sourwood | 2-5 | 3-40 | 1-2% |
| Partial control | | | |
| Surnac; poison, smooth, winged | 2-4 | 3-40 | 1-2% |
| Partial control | | | |
| Sweetgum | 2-3 | 3-40 | 1-1.5% |
| For control | | | |
| Swordfern | 2-5 | 3-40 | 1-2% |
| Partial control | | | |
| Tallowtree, Chinese | - | - | 1% |
| For control Thorough | covera | oe of foliage | is necessary for best |
| results, | 00.014 | ,,. | . 10 1100033019 10/ 0031 |
| | _ | | . 2% . |
| results. Tan oak resprouts | — ly to res | orouts that a | 2% ire less than 3 to 6 feet |
| results, Tan oak resprouts For partial control, App | — ly to res | orouts that a | 2% ire less than 3 to 6 feet |
| results, Tan oak resprouts For partial control, App Lall, Best results are obt | ly to res ained wi | prouts that a th fall applica | 2% ire less than 3 to 6 feet |
| results. Tan oak resprouts For partial control, App tall, Best results are obt Thimbleberry For control Tobacco, tree | ly to res ained wi | prouts that a th fall applica | 2% ire less than 3 to 5 feet |
| results, Tan oak resprouts For partial control, App tall, Best results are obt Thimbleberry For control | ly to res ained wi | prouts that a th fall applica | 2% re less than 3 to 5 feet tions. |
| results. Tan oak resprouts For partial control. Applatt. Best results are obt. Thimbleberry For control Tobacco, tree Partial control | ly to res ained wi | prouts that a th fall applica | 2% re less than 3 to 5 feet tions. |
| results. Tan oak resprouts For partial control. Applatt. Best results are obt. Thimbleberry For control Tobacco, tree Partial control | y to resained wi | prouts that a th fall applica 3-40 | 2% pre less than 3 to 5 feet tions. 1% |
| results. Tan oak resprouts For partial control. Applatil. Best results are obte Thimbleberry For control Tobacco, tree Partial control Trumpetcreeper Trumpetcreeper Trumpetcreeper Trumpetcreeper | ly to respond with 2 | 3-40 | 2% re less than 3 to 6 feet tions. 1-2% |
| results. Tan oak resprouts For partial control. App all, Best results are obt. Thimbleberry For control Tobacco, tree Partial control rumpetcreeper r control fine maple nial control | 2-3 | 3-40 | 2% re less than 3 to 6 feet tions. 1-2% |
| results. Tan oak resprouts For partial control. Applatil. Best results are obt. Thimbleberry For control Tobacco, tree Partial control rumpetcreeper or control fine maple intat control firiginia creeper | ly to respond with 2 | 3-40 | 2% re less than 3 to 6 feet lians. 1-2% 1-1.5% 1-2% |
| results. Tan oak resprouts For partial control. Applatt. Best results are obt. Thimbleberry For control Tobacco, tree Partial control rumpetcreeper r control fine maple intial control | 2-3 | 3-40 | 2% re less than 3 to 6 feet lians. 1-2% 1-1.5% 1-2% |
| results. Tan oak resprouts For partial control. Applatt. Best results are obt. Thimbleberry For control. Tobacco, tree Partial control. rumpetcreeper r control. fine maple intial control. Finginia creeper ir control. Vaxmyrtle, | 2-3 | 3-40 3-40 3-40 | 2% re less than 3 to 6 feet tions. 1% 1-2% 1-1.5% 1-2% |
| results. Tan oak resprouts For partial control. Applatt. Best results are obt. Thimbleberry For control. Tobacco, tree Partial control. Tumpetcreeper or control. Fine maple intial control. Fine maple intial control. Vaxmyrtle, southern intial control. | 2-3 | 3-40 3-40 3-40 | 2% re less than 3 to 6 feet tions. 1% 1-2% 1-1.5% 1-2% |

13.0 LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for tise label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are out-

side the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE OUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

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This product is protected by U.S. Patent No. 4,405,531.
Other patents pending.
No license granted under any non-U.S. patent(s).
EPA Reg. No. 524-475

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

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DEC | 5 1997

Dr. Stephen J. Wratten Monsanto Company 700 14th Street, N.W. Suite #1100 Washington, DC 20005

Dear Dr. Wratten:

Subject: Roundup Ultra Herbicide (One-Liter Container Labels)
EPA Registration No. 524-475
Your Application Dated November 21, 1997

The labeling referred to above submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Vulue KWalton Lad James A. Tompkins Product Manager 25 Herbicide Branch Registration Division (7505C)

| ı | 5.7 | AMISSION REVIEW RECORD | | | | | 1 *124 - 12 - |
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| 1. Campany/Product Number | lonsanto 524-4 | 75 | Z. EP. | A Product Man r. James | Tompkins | 5 | | None Restricted |
| 4. Company/Product (Name) Roundus | x⊛ Ultra Herbi | cide | PM # | 25 | | | | None Restricted |
| 5. Name and Address of Ap Monsanto Con 700 14th Str Suite 1100 Washington, Check if this | eet, N.W. | ode) | (b)(i), to: EPA | , my product . Reg. No duct Name | is similar d | r ident | ical in col | FIFRA Section 3(c)(3) mposition and labeling |
| | | | Section | - <u> </u> | | | | <u> </u> |
| Amendment - Explain Resubmission in resp. Notification - Explain Explanation: Use addition | onse to Agency letter below. | | I and Section II.) | Agency lett "Me Too" Other - Exp | d labels in r ter deted Application. plain below. | | to | <u> </u> |
| | Herbicide 1- | | | · | · | | | |
| A B social Till B o L so MC | | | Section - | 111 | | _ | | <u> </u> |
| 1. Material This Product Wil Child-Resistant Packaging Yes* No | Unit Packaging Yes No | | Water Solubla Yes No | Packaging | 2. 1 | Type of | Container Metal Plastic Glass | |
| * Certification must be submitted | If "Yes" Unit Packaging wgt | No. per . container | If "Yes" Package wgt | No. per contains | or | | Paper Other (S | pecify) |
| 3. Location of Net Contents Label , | Information antainer | 4. Size(s) Ret ろろ。 | tail Container | | 1 — 1 | n Label | | ns panying product |
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| | : | | Section - | IV | | | | |
| 1. Contact Point (Complete | items directly below t | for identificatio | n of individual to | be contacted, | if necessar | y, to pro | cess this | epplication.) |
| Name Dr. Russell P. | Schneider | | Title Agricu Direct | | gulatio | n | | No. (Include Area Code) 783-2460 |
| I certify that the state I acknowledge that an both under applicable | y knowingly falsa or r | | all attachments | | | | | 6. Date Application Received (Stamped) |
| 2. Signature | Mekati | 5 | 3.Tiue Manager, | Registra | tions | | | · .:::- 70 |
| 4. Typed Name Stephen | J. Wratten, P | | 5. Date No | vember 21 | , 1997 | _ | | |

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour peresponse, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other espect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152,81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section 1, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block AI- Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company time designations.
- Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Paraging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contains Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.

There is a series of the way the

6. Manner in which lead is affixed to product - Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too " reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

November 21, 1997

Hand Delivered

Office of Pesticide Programs Document Processing Center (AMEND) U.S. Environmental Protection Agency Room 266A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Ultra Herbicide (EPA Reg. No. 524-475)

1-Liter container labels

Dear Mr. Tompkins:

Monsanto produces Roundup Ultra Herbicide in 1-liter containers for use in the Caribbean Islands. It is convenient to utilize this same container in Puerto Rico. In a letter dated 19-Sept-97. Monsanto requested Agency approval the existing 1-liter container labels; this request could not be accommodated because 40 CFR 156.10 (d)(1) requires that net contents employ English units.

Monsanto now submits for Agency approval five (5) copies of draft labels showing the container size as "33.8 fl. Oz. (1 litre)". We believe this now satisfies the CFR requirements. Examples of both the bottle label and the box label (12 1-liter bottles per box) are enclosed for stamping. We appreciate your help resolving this issue.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely

Stephen J. Wraiten

Manager, Registrations

cc:

R. P. Schneider D. Fee-White

TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468



NO PRINT ZONE 1/4"

Physical or Chemical Hazards Spray solutions of this product should be mared, stored and applied using Only stanless tiert abuminum, lebergiats, plattic or plattic-

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DIRECTIONS FOR USE It is a violation of Sederal law to use this print uch in any manner inconsistent with as borton For any requirements specific to your State or high, consult the agency responsible for profi-Call regulations.

Agricultural Use Requirements Use the product only in accordance with its beginn and with Im Worker Present Standard, 40 C/R part 179 Raise to supplenemial labeling under "Agricultural Use Reduirements in the Onections for Us distance sett lyade nationington los standard

G-TM Trademarks of Montanio Company O Monstello Company 1937 MONSANTO COMPANY ST LOUIS, MISSOURI 63167 U.S.A. Non-Agricultural Use Requirements

The reducements in this box apply to ones in this product that are NOT within the scope of the Worker Protection Standard to: agriculture a) proteodes (40 CFR Part 170). The WIP abolics when this product it used to product agricultural plants on larges, forests, masse DI GIFFPHONIES

tern proper and pets of beated areas una come unfalled has direct to prevent transfer a Dis product palls describe sequences

Storage and Disposal

Do not contaminate water, foodstuffs, feed or tere by storage or disposal DISPOSAL: Waster resulting from the use of this product that cannot be used or chemical-N reprocessed should be disposed of in under approved for prairies disposal or in Keep out of reach of children.

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then puncture and dispose of at a cannary Carefully road entire "LIMIT OF WARRANTY AND fundfill or by incineration, or, a afformed by [CARLLIT", contained in the label booklet, before state and local authorities, by butning ill puying or using ill terms are opt and burned stay out of smale

[P4 Reg No 524-475

EPA ESI 56100-LA-001

"Glyphosate, N (phosphonomethyl) glycine, INTRI INGREDIENTS..... 20127V1-3HF

feturn at post unpopped. ACTIVE INGREDIENT: BECAUSE SEVERE INJURY OR DESTRUCTION MAY in the form of its isopropylamine sait 41.0%

REFORMULATION OF REPACKAGING IS PROHIBITED. NET 33.8 fl. oz. (1 litre) Carefully follow detailed instructions in label booklet.

ed under any nun-U.S. paterd(s).

"Contains 460 grams per late or 4 pounds per U.S. gallon of the active ingredient glyphosale, in the form of 4s ingregovamine eat. Equivalent to 356

grams per late or I pounds per U.S. gation of the

"ACT OF HERBICIDE WITH FOLIAGE, S. EXPOSED NON-WOODY ROOTS ON

LADPS, DESIRABLE PLANTS AND TREES.

1 This product is protected by U.S. Patent Ro. 4,405,531. Other patents gending. No ligense grant-

NO PRINT ZONE 1/4"

PRECAUTIONARY STATEMENTS Hazards to Humans

and Domestic Animals Keep out at reach at chidaren.

CAUTION!

CAUSES FYF IRRITATION. Avoid contact with eyes or clothing FIRST AID; IF IN EYES, faish with pleney of water Get medical attention if writation occ

DOMESTIC AKIMALS: This product is con-Exteres to be estimely normatic to dogs and other domestic stample; however, ingestion of this product or large amounts of treshly Sprayed regulation tray result in temporary gastrointestinal irrelation (vometry, donntes, code, atc.) It such symptoms are observed broade the tempol with plenty of livings to pre-yed dehydration. Call a veterinarian a sympford physica for more than 24 hours.

Personal Protective Equipment (PPE) Applicators and other handlers must were fung sleeved shirt and long parts, shoes this socks. Follow manufacturer's insugepair tocus, follow manufactures a wayue-lural for channey manufacture PPE (Personal Protective Educionem). It no such instruc-tions for machables, use detergent and hos water Keep and wash PPE separately from

other burnery. When hundlers use rinsed suctems when numbers use cosed systems, enclosed cibs, or another in a manner that mains the requirements issed in Worker Protection Standard (WPS) for agricultural pestudies (40 CFR 170 240 (d) (4-5)), the tundles PPE requirements may be reduced or modified as specified in the WPS

User Salety Recummendations:

Users should:

- Wash hands belove eating, dranking, cheming gun, utling lobacco, or using the loilet.

- Remove challing immediately & pesticide gets incide. Then much thoroughly and gutmentates the force.

on clean clostway

in case of an errormony involving this product Call Collect, day ar night, (314) 694-4000 Environmental Hazarda

Do not apply directly to water, to areas where out in high quietty in aviet, to arrests written surface water is presented or to internetal areas below the mean high water mark. Do not con-tanguals water when disposing of equipment

> ©©©© Rion Only Position

NO PRINT ZONE 1/4"



acid, plyphosale.

ACCEPTED

DEC 1.5 1997

Under the Foderal Insecticide. Fungicide, and Redemicide Act. as transhied, for the posticide FOR Rog. Ho. 5744 475

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ACCEPTED

DEC | 5 1997

Under the Federal Insecticide. Fungicide, and Bodenticide Act. as amended, for the posticide registered under EPA Reg. Re. 324-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

Carefully follow detailed instructions in label booklet.

Keep out of reach of children.

CAUTION! Read procautions on side panel.

Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Read the "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION 1 REPACK1 IG IS PROHIBITED.

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt 41.0%

INERT INGREDIENTS: 59.0%

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt, Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

EPA Reg. No. 524-475

21137V1-2HP

12 33.8 fl. oz. UNITS

Front Panel



PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

FIRST AID: IF IN EYES, flush with plenty of water. Get medical attention if irritation persists.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, clarinea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian it symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other faundry.

When handlers use closed systems, enclosed cabs, or afforalt in

a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

lisers should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the tollet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Oo not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stalnless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

(Continued on back panel.)

Side Panel



(Continued from side panel.)

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could liash or explode, causing serious personal injury, if ignited by open flama, spark, welder's torch, lighted cigaratte or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under Agricultural Use Requirements in the Directions for Use section for information about this standard.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce "cultura" into on larms, forests, nursaries or when these produces.

Keep people and pels off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

Storage and Disposal

Do not contaminate water, foodstuffs, leed or seed by storage or disposal.

DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Emptied container retains vapor and product residue, Observe all labeled safeguards until container is destroyed.

Do not rause contain. I frigle r. container, then

puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

(See label booklet for Complete Directions for Use.)

LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for the label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and fimiliations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those (Continued on side panel.)

(01) 5 00 70183 50450 8

Back Panel



(Continued from back panel.)

set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application sits and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF

THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No Illownse granted under any non-U.S. patent(s).

For product information or assistance in using this product, Call toll-free, 1-800-332-3111.

"Trademark of Monsanto Company.

"Round" a registered trademark of Monsanto Company.

@MONSWITO COMPANY 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI, 63167 U.S.A.



Side Panel

NOV ! 7 1997

Ms. Annette Kirk Monsanto Company 700 14th Street, N.W. Suite 1100 Washington, DC 20005

Dear Ms Kirk:

Subject: Roundup Ultra Herbicide (Remove Preharvest Application From Over the Top of Roundup Ready Corn) EPA Registration No. 524-475 Your Application Dated October 15, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins V Color Product Manager 25
Herbicide Branch
Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ULTRA® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.

ACCEPTED

MOV 17 1997

Under the Federal Insecticide.

Thicke, and Redenticide Act.
mended for the posticide
throad under
Rog. No. 524-475

i i

ROUNDUP® ULTRA

Herbicide by Monsanto

EPA Reg. No. 524-475

POSTEMERGENCE WEED CONTROL PROGRAMS FOR ROUNDUP READY® CORN

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup and Roundup Ready are registered trademarks of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN CORN WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

GENRAL INFORMATION

MONSANTO COMPANY RECOMMENDS USE OF THIS PRODUCT ONLY C11 CORN HYBRIDS DESIGNATED AS CONTAINING THE ROUNDUP READY® GENE.

- Applying this product to corn hybrids which are not designated as Roundup Ready® will result in severe crop injury and yield loss.
- The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to this herbicide. Information on Roundup Ready corn may be obtained from your seed supplier or Monsanto representative.

Application Instructions

This product may be applied postemergence to Roundup Ready corn from emergence through the V6 stage (6 leaves with collars) or until corn height reaches 24 inches (free standing), whichever comes first. The single in-crop application of this product must not exceed 1 quart per acre. Do not make a preharvest application following an in-crop application of this product.

When applied as directed, this product controls labeled annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one application of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of the label booklet. Refer to the "MIXING" section of the label booklet for proper use instructions.

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product under hard water conditions, drought conditions or when tank mixed with Bullet, Micro-Tech or Partner. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water after use to reduce corrosion. The addition of other additives, including fertilizers and micronutrients are not recommended with this product since this may result in increased potential for crop injury.

Allow a minimum of 50 days between application of this product and harvest of corn forage. There are no rotational crop restrictions following applications of this product.

ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHICH DO NOT CONTAIN THE ROUNDUP READY GENE.

THOROUGHLY CLEAN THE SPRAY TANK AND ALL LINES AND FILTERS TO ELIMINATE POTENTIAL CONTAMINATION FROM OTHER HERBICIDES PRIOR TO MIXING AND APPLYING THIS PRODUCT.

For ground applications: Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzles and spray pressure to avoid spraying a fine mist. Check for even distribution of spray droplets.

For aerial applications: Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. AVOID DRIFT - DO NOT APPLY DUPING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATIONS ON ROUNDUP READY CORN MAY BE MADE ONLY IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, KANSAS,

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1 i

LOUISIANA, MISSISSIPPI, MISSOURI (BOOTHEEL ONLY), NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE AND TEXAS.

Weeds Control Recommendations

Apply 24 to 32 ounces of Roundup Ultra per acre for control of labeled grasses and broadleaf weeds in conventional and no-till corn production systems. Refer to the label booklet for rate recommendations for specific annual weeds. Roundup Ultra applied at up to 1 quart per acre will control or suppress the growth of perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle, nutsedge, quackgrass, rhizome johnsongrass, redvine, trumpetcreeper, swamp smartweed, wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for Roundup Ultra herbicide.

Preemergence followed by Postemergence Weed Control Program

This product may be applied postemergence in-crop following any labeled preemergence herbicide application. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. A single incrop application of this product at the recommended rate will provide control of emerged weeds listed on the label. This product may be applied postemergence to Roundup Ready corn from emergence through the V6 stage (6 leaves with collars) or until corn height reaches 24 inches (free standing), whichever comes first.

Postemergence Only Weed Control Program

This product may be applied alone as a single in-crop application to provide control of emerged weeds listed on the label. The post application of this product should be made before the weeds reach a height and/or density that the weeds become competitive with the crop. This product may be applied postemergence to Roundup Ready from emergence through the V6 stage or until corn height reaches 24 inches (free standing), whichever comes first.

To provide residual control or suppression of annual weeds which may germinate following a postemergence application of this product, this product may be applied in tank mixture with a labeled rate of Harness®, Harness® Xtra, Harness® Xtra 5.6L, Micro-Tech®, Bullet®, Partner® and Permit®. Refer to the specific product label and observe all precautions and limitations on the label for all products used in tank mixtures, including application timing restrictions, soil restrictions, minimum recropping interval and rotational guidelines - the more restrictive requirements apply. Tank mixtures with other products may result in increased potential for crop injury and/or weed antagonism. Refer to the table below for height limitation for tank mix partner.

| Tank Mix Partner | Maximum Height Of Corn For Application |
|---|---|
| Harness Harness Xtra Harness Xtra 5.6 | ll inches |
| Bullet* Micro-Tech* Partner* | 5 inches |
| Permit | . 24 inches |

^{*}Bullet, Micro-Tech and Partner are not registered for use as a postemergence application in Texas.

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 $^{^{}oldsymbol{\circ}}$ Bullet, Harness, Micro-Tech and Partner are registered trademarks of Monsanto Company

*Permit is a trademark of, and used under license from, Nissan Chemical Industries, Ltd.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

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MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

October 15, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Ultra® Herbicide; EPA Reg. No. 524-475

Submission of a New Supplemental Label for

Postemergence Weed Control Programs

Dear Mr. Tompkins:

Monsanto herein submits for approval a new supplemental label for the use of Roundup Ultra® Herbicide over the top of Roundup Ready® Corn. This new supplemental label is for postemergence weed control programs, emphasizing the use of other herbicides for subsequent treatments needed to provide residual control. The preharvest treatment has been eliminated, thereby eliminating the need to specify a 7-day pre-harvest interval between application and harvest of corn grain. In addition, the maximum in-crop use rate has been reduced to 1 quart/acre and the in-crop application timing has been restricted to corn emergence through the V6 stage or until corn height reaches 24 inches, whichever comes first.

We enclose five (5) copies of the proposed supplemental label for Agency review and approval. An Application for Pesticide Amendment and the Certification with Respect to Citation of Data are also enclosed.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-8890.

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Sincerely,

Annette M. Kirk

Registration Manager

cc: R. P. Schneider N. Probst

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| Please read instructions on | reverse before completin | ng form. | | For | rm Approved. | OMB No. 207 | 0-0060. | Approval expires 05-31-95 |
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| | Δ | pplication | n for P | esticide | - Section | I | | |
| 1. Company/Product Number | 524-475 | | | 2. EPA Produ Mr. Jai | uct Manager mes Tompk | ins | 3. Pro | pposed Classification |
| 4. Company/Product (Name Rou |) ndup® Ultra Her | bicide | | РМ # 25 | | |] [x_ | None Restricted |
| Washington, DC | ny t, N.W., Suite | | | (b)(i), my pi to: EPA Reg. | roduct is sim | | al in cor | FIFRA Section 3(c)(3) mposition and labeling |
| | | | Sect | ion - II | | | | |
| Notification - Explain Explanation: Use addition Submission of | oonse to Agency letter d | (For section | l for | Age - Me Oth oth | ency letter date Too Applica er - Explain be | etion. How. p Ultra o | | he top |
| | | _ | Secti | on - III | | | | |
| 1. Material This Product Wil | l Ba Packagad In: | | | <u> </u> | | | | |
| Child-Resistent Packaging Yes* No Certification must se submitted | Unit Packaging Yes No If "Yes" Unit Packaging wgt. | No. per container | | | ging lo. per container | | onteiner Metal Plastic Glass Paper Other (S | pecify) |
| 3. Location of Nat Contents | Information 4 | . Size(s) Ret | il Contain | er | 5. Lo | cation of Label On Label On Labeling | | ns panying product |
| 6. Manner in Which Label is | Affixed to Product | Lithoga Paper Stenci | glued | | Other | | | |
| | | | Section | on - IV | | • | | |
| 1. Contact Point (Complete | items directly below for | identificatio | n of individ | luel to be can | stacted, if nece | essery, to proc | ess this | application.) |
| Name Dr. Russell | P. Schneider | | _ | ricultur rector | al Regula | | • | No. (likelude Area Code) 783-2460 |
| | ments I have made on the y knowingly false or mislew. | | all attachn | | | and the second s | | B. Date Application Received (Gtamped) |
| 2. Signatura Annetta 1 | M. Kuh | | Regi | stration | Manager | | | <i>O1</i> |
| T Name | M. Kirk | 1 | 5. Date | | | | | 86 |

October 15, 1997

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following meterial must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A¹- Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for presubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explenation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging, Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Contriner Specify the net contents of all retail containers for your product,
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 5. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, asubmission, "me-t.c.," ruregistration, etc.

-5. Self-explanatory,

EPA Use Only.

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SFPA ○

United States Environmental Protection Agency

Washington, DC 20460

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Certification wi | th Respect to C | itation of D | ata | Approval Expires 11730 |
|--|--|--|--|--|
| Applicants Name and Address | | EPA File Symbol/ | | 704 435 |
| Monsanto Company 700 14th Street, N.W., Su Washington, DC 20005 | ite 1100 | Product Name | Roundup® Ultra | 524-475 Herbicide |
| | NOTE: If your product is a 100% repackaging of another EPA-registered product hame ground this application is supported by all data submitted or cited in the application options are indicated, this application is supported by all data in the Agency's properties or effects of this product that is identical or substantially similar, of data that would be required to be submitted if this application sought the product of identical or similar composition and intended uses under the data the date of apropral of this application. (Check the appropriate boxes, in iterpertain to your application.) I certify that, for each study cited in support of this application for registration study. X I am the original submitter*; or I have obtained the written permission of the original data submitter to confide the vite of the submitted of this application for registration study. a. I have obtained the written permission of the original data submitter to confide the vite of the product of the original data submitter to confide the vite of the product of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite of the original data submitter to confide the vite | October 15 | , 1997 | |
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| Those companies | s that have submitted the | studies which I | have cited (Selective | method*). |
| | these studies is attached | . (Note: a Data | Matrix is not requir | ed under the |
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| Annetti M. Tick | | ager | | ±5, 1997 |
| General Offer to I persons, with regard | Pay: I hereby offer and ag to the approval of this ap | ree to pay comper plication, to the ex | nsation to other stent required. | |

Name and Title

Date

EPA Form 8570-29 (Rev-7-91)

Signature

Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

September 15, 1997

Hand Delivered

Office of Pesticide Programs

Document Processing Center (FINAL PRINTED LABELS)

U.S. Environmental Protection Agency

Room 266A, Crystal Mall #2

1921 Jefferson Davis Highway

Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental labels

Dear Mr. Tompkins:

On 26-Aug-97 EPA approved Monsanto's application for a supplemental label allowing the use of this product on certain grasses that are unique to Hawaii. Herein we submit five (5) copies of final printed labeling for this use. It is identified as print plate 21137V1-23 dated 8/26/97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

cc:

R. P. Schneider

D. Fee-White

D. Rasmusson

| Please read instructions on r | everse before complet | ing form. | | | Form Ap | proved. | OMB No. | 2070-0060 |). Approval ex | pires 2-28-95 |
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| | | Application | n for P | esticid | e - Sec | tion | | | <u> </u> | |
| 1. Company/Product Numbe | ш | | , L | 2. EPA Pa | oduct Ma | nager | | 3. Pr | posed Classifi | cation |
| | 524-475 | <u>-</u> | | Mr. | James | Tompk | ins | ᆜ┌ | None | Restricted |
| 4. Company/Product (Name) | Roundup® Ultra | Herbicid | e | PM# | 25 | | | |] | 1105010100 |
| 5. Name and Address of App | olicant <i>(Include ZIP Cod</i> | de) | | | | | | | FIFRA Sectio | |
| Monsanto Com | | +- 1100 | 1 | (b)(i), my to: | product | is simi | lar or ident | ical in co | mposition and | f labeling |
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| Yes* | Yes | | ! ├─-{ | 'es | | | | Metal Plastic | | |
| No | No | | ļ. <u> </u> | ło | | | ··· | Glass Paper | | |
| Certification must Le submitted | lf "Yes" Unit Packaging wgt. | No. per container | If "Yes" Package | wgt | No. per containe | er | | Other (S | pecify) | |
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| | ontainer | 4. Size(s) neta | ii Comanie | | | | On Labe | | panying produc | e t |
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| · · · · · · · · · · · · · · · · · · · | <u> </u> | | | on - IV | | | | | . , | |
| 1. Contact Point (Complete | items directly below fo | or identification | of individ | ual to be | contacted | , if nece | ssary, to pr | ocess this | application.) | |
| Dr. Russell | P. Schneider | · · · · · · · · · · · · · · · · · · · | | ricul irecto | tural f r | Regula | ation | | 783-2460 | Area Code) |
| | | Certificat | ion | | | | | | 6. Late Applie | cation |
| I certify that the stater I acknowledge that en- both under applicable I | y knowingly false or m | | | | | | | | Recaived (Stam) | pedl |
| !. Signature | 111. | 3 | . Title | | · · · · · · · · · · · · · · · · · · · | | | | | * * |
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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour puresponse, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

-). Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft lebeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of dreft labels with all applications for new registration. Such dreft labels may lin the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8. x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION | - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to emend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Chack the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Sixth's of Retail Container Specify the net contents of all retail containers for your product.
- 5. Egeation of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, asubmission, "me-too," registration, etc.

-5. Self-explanetsry, * * *
EPA Use Only.*

7

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



MOT REVIEWED In Ascordance with PR Notice 82-2. Baned on Draft Labeling Dated

EPA Reg. No. 524-475

®Roundup is a registered trademark of Monsanto Company.

FOR USE IN PASTURES FOR HAWAII ONLY

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBI-CIDE: WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SE-VERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product may be used in Hawaiian pastures, including kikuya grass, pangola grass and

guineagrass pastures. Spot treatment, wiper application, preplant, preemergence and pasture renovation applications may be made.

Spot treatment

This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals. For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Preplant, preemergence and pasture renovation

When applied prior to planting or emergence of forage grasses or as a direct application to the listed perennial pasture species, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

See the Weed Control Tables in the label booklet for Roundup Ultra herbicide for information about rates and timings for specific weeds.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21137V1-23 92 8/26/97

Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

September 15, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (FINAL PRINTED LABELS)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundupô Ultra RT Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental labels

Use in Dormant Alfalfa

Dear Mr. Tompkins:

On 26-Aug-97 EPA approved Monsanto's application for a supplemental label allowing the use of this product on dormant alfalfa. Herein we submit five (5) copies of final printed labeling for this use. It is identified as print plate 21138V1-6 dated 8/26/97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely.

Stephen J. Wratten Manager, Registrations

cc: R. P. Schneider

D. Fee-White

D. Rasmusson

| Please read instructions on | re jerse before compl | eting form. | | | Form Appro | \neg | | O. Approval expires 2-28-95 |
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| 1, Company/Product Numb | ^{Br} 524 | - 475 | | | luct Manage IES Tomp | | 3. P | roposed Classification |
| 4. Company/Product (Name Roundup® |) Ultra RT Herb | icide | Р | M# | 25 | | LX. | None Restricted |
| Washington, | ompany treet, N.W., S | | (t | ol(i), my p o: EPA Reg | roduct is s | | entical in co | n FIFRA Section 3(c)(3) omposition and labeling |
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| Child-Resistant Packaging Yes* No ** Certification must a submitted | Unit Packaging Yes No If "Yes" Unit Packaging wgt | No. per . container | Water Sol | | aging No. per container | 2. Type | of Contained Metal Plastic Glass Paper Other (| Specify) |
| Label Contents | Information Container | 4. Size(s) Reti | ail Container | | 5. | Location of I | beí | ons |
| . Manner in Which Label is | Affixed to Product | Lithogr Paper of Stencil | aph glued ed | | Other | | | |
| | | | Sectio | n - IV | | | | |
| 1. Contact Point Complete | items directly below | for identification | n of individu | al to be co | ntacted, if i | necessary, to | process this | s application.) |
| Dr. Russell | P. Schneider | _ | | icultur ector | al Regu | lation | , | 783-2460 |
| l certifý that the state l acknowledge that ar both under applicable | ny knowingly false or i | | all attachme | | | | | 6. Date Application Received (3tamped) |
| . Signature | 111/ | | 3. Title Manac | ner. Re | gistrat | ions | | |

5. Date

September 15, 1997

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT herbicide and this supplement.



MOR TOWNLESS.

In Accordance with TR Reties 25-3.

Longs on Denit Lobe 100 Persi

\$13 U/41

EPA Reg. No. 524-475

®Roundup is a registered trademark of Monsanto Company.

FOR USE IN DORMANT ALFALFA

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBI-CIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SE-VERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra RT herbicide for essential product performance information.

RECOMMENDATIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa. Apply 8 to 12 ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with Roundup Ultra RT herbicide.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21138V1-6

8/26/97

Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Ultra Herbicide (Production of Roundup Ready Sugarbeet Seed) EPA Registration No. 524-475 Your Application Dated August 15, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ACCEPTED

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

AUG 26 1997

Under the Federal Insecticide. Fungicide. and Redenticide Act, as amended. for the posticide registered under EPA Reg. No. 524 -475

USE ONLY FOR SEED PRODUCTION OF SUGARBEETS WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup and Roundup Ready are registered trademarks of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN SUGARBEETS WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT SUGARBEETS IN PRODUCTION FIELDS OF SUGARBEETS CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF SUGARBEETS VARIETIES WHICH DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

USE RECOMMENDATIONS

This product will control non-glyphosate tolerant sugarbeets in seed production fields of sugarbeets containing the Roundup Ready gene. This product may be applied using ground spray equipment only. Apply 24 ounces of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application of 24 ounces per acre may be applied, if needed to control non-glyphosate tolerant sugarbeets plants.

DO NOT EXCEED A MAXIMUM RATE OF 1 1/2 QUARTS OF THIS PRODUCT PER ACRE PER SEASON.

Application timing -- This product can be applied to Roundup Ready sugarbeets from emergence to canopy closure.

Treated sugarbeets may not be used for food or feed. Do not feed or graze treated sugarbeets. Do not process treated sugarbeets for food or feed.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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EPA Form 1176-11 (3-75)

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| SEPA Environmental Protection Washington, DC 2046 | n Agency | Registratio Amendmer Other | n OPP Identifier Number |
| Applicatio | n for Pesticide - Sec | tion I | |
| 1. Company/Product Number 524-475 | 2. EPA Product Ma Mr. James | | 3. Proposed Classification |
| 4.Company/Product(Name) Roundup® Ultra Herbicid | e PM# 2 | 5 | X None Restricted |
| 5. Name and Address of Applicant <i>(Include ZIP Code)</i> Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | (b)(i), my product to: | | with FIFRA Section 3(c)(3) in composition and labeling |
| Check if this is a new address | Product Name | | |
| | Section - II | · | |
| Amendment - Explain below. Resubmission in response to Agency letter dated Notification - Explain below. | Agency let | ed labels in response to ter dated Application. plain below. | |
| † Request approval of a label for Rou | ndup Ready™ Sugar Section - III | Beet Seed Produc | ction |
| Material This Product Will Be Peckaged In: | | | |
| Child-Resistant Packaging Yes No No If "Yes" Unit Packaging Yes No. per Unit Packaging wgt. | Water Soluble Packaging Yes No If "Yes" No. per Package wgt contains | Piz GI Pa | tainer etal astic ass aper ther (Specify) |
| 3. Location of Net Contents Information 4. Size(s) Reta | il Container | 5. Location of Label D. On Label On Labeling a | irections |
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| | Section - IV | | |
| Contact Point (Complete items directly below for identification | · | if necessary, to proces | s this application.) |
| Vame Dr. Russell P. Schneider | Citto Agricultural Rec Director | | ephone No. (Include Ares Code) 202) 783-2460 |
| Certificat I certify that the statements I have made on this form and a lacknowledge that any knowingly false or misleading states both under applicable law. | all attachments thereto are tru | | 6. Date Application Received (Stamped) |
| 2. Signature 3 | . Title Manager, Regist | rations | |
| Typed Name Stephen J. Wratten, Ph.D. 5 | . Date August 15, 19 | 97 | 100 |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affeirs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). Iff not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A. Check the appropriate action for which you are submitting this form.

SECTION | - This section must be completed, as applicable, for all registration actions,

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2_ EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person end address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Conteiner Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 1. Size(s) of Retail Curitainer Specify the net contents of all retail containers for your product.
- i. Location of Use Directions Indicate the location of the use directions for your product.
- . Manner in which label is affixed to product Indicated the method product label is attached to retail container.

ECHON IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, submission, "mr-toc," reregistration, etc.

5. Self-explanatory.
EPA Use Only

101

Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

August 15, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Supplemental Label for Sugar Beet Seed Production

Dear Mr. Tompkins:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra Herbicide which allows use on Roundup Ready[™] sugar beets for the sole purpose of seed production. This use is necessary as a quality control measure to ensure that the seed produced by seed companies will be free of non glyphosate-tolerant sugar beet seeds. Roundup Ultra Herbicide will be used to eliminate these non-tolerant plants from the production field. This step is crucial in the development of this new technology. Similar seed production labels were approved for use of Roundup Herbicide (524-445) on glyphosate tolerant soybean and cotton seed in 1994.

Monsanto has recently filed a US EPA application for the use of Roundup Ultra Herbicide on Roundup Ready™ sugar beets. Therein were provided residue data and a request for increasing tolerances on sugar beet roots, tops, and dried pulp. Monsanto has assigned it's highest priority to the sugar beet petition for the 1997-8 cycle. The proposed label will be used to allow seed scale-up beginning in the spring of 1998 in the warmer climates of the western US. Present plans call for using this label on less than 250 acres of sugar beets in California. All of the resulting sugar beet seed will used for further scale-up and commercial planting, and will not enter commerce.

Monsanto believes that the requested use on sugar beets can be approved as a non-food use because of the certainty that none of the plant material will enter the US food supply.

• Because of the very limited acreage and distribution of the label, Monsanto will have complete control of the seed and plant material at all times.

10%

TELEPHONE: (202) 783-2460 FACSIMILE: (202) 783-2468

Mr. Tompkins Page 2 August 15, 1997

- After harvest of the sugar beet seed, the remaining plant material will be destroyed by
 plowing. In the event that a sugar beet seed production field is damaged (ie., by wind or
 flood), and cannot be grown to maturity, the remaining plants will be destroyed.
- This Roundup Ready sugar beets will be separated from other sugar beets by weed-free borders that do not allow cross pollination, according to USDA PERFORMANCE STANDARDS.
- Fields will be maintained in accordance with USDA requirements for isolation and security.
- Because of the investment Monsanto and the cooperating seed companies have made in the commercial introduction of Roundup Ready sugar beet seed, the financial incentives strongly favor using the resulting seed for planting rather than commercial processing.

In summary, this label is needed by producers of Roundup Ready sugar beet seed as a quality control tool in 1998. The seed produced, or any of its derived processed fractions, will not enter the US food supply. Monsanto therefore requests that the Agency approve and stamp the enclosed supplemental label. An application for pesticide amendment and Certification with Respect to Citation of Data are also enclosed. If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely.

Stephen J. Wratten Manager, Registrations

cc: R. P. Schneider

+ i

Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

+ i

Subject: Roundup Ultra Herbicide (Identification Sticker For Backpack Sprayers In California)
EPA Registration No. 524-475
Your Application Dated August 15, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

BACKPACK IDENTIFICATION STICKER FOR



Keep out of reach of children

CAUTION!

ACTIVE INGREDIENT:
Glyphosale, N-(phosphonomethyl)glyche

EPA Reg. No. 524-475

AVOID ORIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS

Do not allow the herbicitie solution to mist, drip, drift, or splash onto desirable vegetables since infinite quantities of this herbicitie can cause severs damage or destruction to the crop, plants, or other areas on which finallinear was not intended. The likelihood of injury occurring from the use of this product is greated when winds are gusty or in access of 5 miles per hour or when other conditions, firefluting leaser wind vetocates, will allow spray tirf to occur. When spraying, avoid combinations of pressure and nozzle type that will result in spiniter or like particles (mist), which are thay to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

DO NOT USE FOR STORAGE.

This container must be used only for Roundup Ultra or other nonsplective herbickites, or must be thoroughly cleaned and rinted. Rinsale must be used in accordance with total directions or disposed of in accordance with applicable law. Any product residue in the container may result in injury to desirable plants and crops. Do not confarminate water, foodstuffs, feed or seed by storage or disposal.

DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a land! If approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

for more product lidermation, call tolk-free 1-800-332-3111. *Roundup is a registered trademark of Monsanto Company.

User must always read, follow and have in possession the current "COMPLETE DIRECTIONS FOR USE" label booklet for Roundup Unital herbickle. It is a violation of Federal twit to use filts product in any manner tracershipted with its rabelling, Refer to these DIRECTIONS to PRECAUTIONARY STATEMENTS, INST AID INSTRUCTIONS ENVIRONMENTAL NAZAROS and PHYSICAL OR CHEMICAL HAZAROS.

Bakes is an abbrevated leating of weeks controlled and proper one rates from the full Roundup Uhra Verbickes tabel. Use this as a guide to misling appropriate amounts of Roundup Utra herbicke and water to control the controls believe detected and breath lead. Hermonther, Roundup Uhra herbicke is a non-selective post-enverged herbickle for the control of annual and periodic greates, threatfeaves and breath testing process.

| Annual Weeds* | | Perenatal Woods* | | Brush* |
|------------------------|------------------------------|-------------------|--------------------|--------------|
| 1% Salution | | 1 1/2-2% Solution | | 2% Solution |
| Annual bluegrass | Marcelail | Artichoka thistia | ice plant | French broom |
| Annual ryegrass | Mustard | Bermustagrass | Johnsongrass | Mulefor |
| Barnyardgrass | Pigweed | Clover | Kikuyugrase | Dake |
| Chickwood | Ragwood | Dallingrass | Рантравріави | Poison bak |
| Crabgiass | Russian Infetie | Oandelion | Perennial ryegrass | irea lobacco |
| Filaree | Sowthielle | Field bindweed | Palson hamlock | Widows |
| Foxtall | Spotted apurge | Fescue | | |
| London (ocket | Wild pale | Glant reed | | |
| For complete list of r | pecies controlled, check the | label | | |

SPRAY SOLUTION

| Dealred | Amount of Roundup*Ulica | | | | |
|------------------------|-------------------------|------------|-----------|--|--|
| Voluma | 1% | 1 1/2 % | 2% | | |
| 1 gaillori | I 1/3 oz. | 2 oz. | 2 2/3 oz. | | |
| 25 gallone | i qi, | 1 V2 qts. | 2 c/s. | | |
| 100 gallors | 1 gal | 1 V2 gale. | 2 gala. | | |
| 2 tablespoons = tource | | | | | |

General Directions:

Roundup Ultra herofolds, a water soluble Bunkl, mixes readly with water to be applied as a follage egray for the control of undestrable plants, Apply on a spray-to-well basis.

2113791-1753

| RESPONSIBLE PARTY: | DILUTION: |
|--------------------|-----------|
| ADDRESS: | |

ACCEPTED

AUG 26 1997

Under the Federal Insecticide.
Fungicide, and Rodenticide Act.
as amended, for the posticide
registered under
EFA Rog. No. 524-475



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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

August 15, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202



Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Backpack Identification Sticker

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Dear Mr. Tompkins:

California requires users of pesticide spray solutions contained in backpack sprayers to identify the pesticide and the dilution rate. Monsanto has produced a sticker to aid our customers to properly tag Roundup Ultra Herbicide in backpacks. We herein submit five (5) copies of this identification sticker for your records. Previously, Monsanto has submitted similar identification tags for on-farm transport containers for Roundup Herbicide (524-445), and the Agency has approved their use as labeling on 4-Feb-93.

Monsanto recognizes that this identification sticker does not meet the complete requirements for a pesticide label, and is only provided to facilitate grower's compliance with California regulations to identify the contents of backpack sprayers.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Manager, Registrations

cc:

R. P. Schneider

A. Hedgecock

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| SEPA | on reverse before completing form. United Stet Environmental Protei Washington, DC | ction Agend | | Registrat Amendm Other | ion | Approval exp PP Identifier I 2320 | Number |
| | Applica | ation for Pe | sticide - Section | on I | | | |
| 1. Company/Product Nu | mber 524-475 | 2. | EPA Product Manag Mr. James Ton | | | sed Classifice | |
| 4. Company/Product (Na | ^{ame)} Roundup® Ultra Her | | 4 25 | | | '''e [] ' | Restricted |
| Monsanto Con 700 14th St Washington, | reet, N.W., Suite 1100 | {b to | Expedited Revie)(i), my product is a PA Reg. No | similar or identic | al in comp | | |
| | <u>-</u> | Sectio | | | | | |
| Notification - Exp | response to Agency letter dated | ection I and Section | Agency letter "Me Too" App Other - Explain | olication. n below. | | , P, con | Lion |
| | | Section | n - III | | | | |
| 1. Material This Product Child-Resistant Packagir Yes* No ertification mus be submitted | Unit Packaging Yes No | Ye No | No. per | \exists | ontainer Metal Plastic Glass Paper Other (Spec | :ify) | |
| 3. Location of Net Conte | nts Information 4, Siza(s) Container | Retail Container | 5 | Location of Label On Label On Labelin | | rying product | |
| 6. Manner in Which Lab | el is Affixed to Product Lin | hograph per glued enciled | Other | | <u>-</u> | | |
| | | Section | ı - IV | | | | |
| 1. Contact Point (Comp | lete items directly below for identific | ation of individue | al to be contacted, if | necessery, to proc | ess this ep | olication.) | |
| Dr. Russëll | P. Schneider | 1 - | cultural Regu ector | | elephone N 202) 78 | o. (Include Ar 3-2460 | ев Code) |
| l acknowledge the both under applica | tatements I have made on this form it any knowingly false or misleading | statement may b | nts thereto are true, e e punishable by fine o | accurate and comp or imprisonment of | olete. | Date Applice Received (Stampe | |
| 2. Signatura | m//l/rate | 3. Title Manag | ger, Registrat | tions | | | w.d |
| 1. Typed Name | - / V_ /V- | 5. Date | | _ | | ? | ∵ ∂8 |

August 15, 1997

Stephen J. Wratten, Ph.D.

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to everage 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agancy, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling:
- 5. Three copies of any data submitted;
- 6. Authorization latter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A- Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions: 👙 🔆 🔆 🔑

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Managar If known, fill in the name and PM number of the EPA Product Managar.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duptication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The neme of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration, that are similar or identical to other pasticide products that are currently registered with the EPA. In order for your application to be eligible for sexpedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Lucation of Net Contents Indicate the location of the net contents information for your product.
- 4. Cizèle) of Retail Container Specify the net contents of all retail containers for your product.
- 5. I coation of Use Directions Indicate the location of the use directions for your product.

Same of the

6. Mirrner in which label is affixed to product - Indicated the method product label is attached to retail container. (1)

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-tco," reregistration, etc.

- 1-5. Self-explanatory,
- 6. EPA Use Only.

107

Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Pro Herbicide (Identification Sticker For Backpack Sprayers In California)
EPA Registration No. 524-475
Your Application Dated August 15, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Junes A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

BACKPACK IDENTIFICATION STICKER FOR



Keep out of reach of children. CAUTION!

ACTIVE INGREDIENT:

Glyphosals, N-(phasphonomathyl)glycine

EPA Reg. No. 524-475

AVOID DRIFT, EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS

Do not allow the herbicide solution to mist, delp, delft, or splash onto destrable vegetables since orbinale quantities of this herbicide can cause severe damage or destruction to the crop, plants, or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when which are guilty or in excess of 5 miles per hour or when other conditions, including lesser what velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in alphiter or fine particles (mist), which are filely to delft. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

OO NOT USE FOR STORAGE.

This container must be used only for Roundup Pro or other nonselective territoides, or must be thoroughly cleaned and thread.

Initiate must be used in accordance with total directions or disposed of in accordance with applicable law. Any product residue in the container may result in Injury to desirable plants and coops. Do not confirminate water, toodstulls, feed or seed by storage or disposal.

DISPOSAL: Waster resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a bandill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

For more product information, call toll-free 1-800-332-3111.

*Roundup is a registered trademark of Morsanto Company.

User must always read, follow and have in possession the current "COMPLETE DIRECTIONS FOR USE" tabel booklet for floundup Pro herbicide. If it is violation of Federal law to use this product in any manner inconsistent with its tabeling. Refer to those DIRECTIONS for PRE-CAUTIONARY STATEMENTS, FIRST AID INSTRUCTIONS, ENVIRONMENTAL HAZAROS and PHYSICAL OR CITEMICAL HAZAROS.

Below is an abbreviated tisting of weeds controlled and proper use rates from the full Roundup Pro herbidde label. Use this as a guide to neting appropriate amounts of Roundup Pro herbidde and water to control the common labeled weeds and brush list at, Remember, Roundup Pro herbidde is a non-selective post-emergent herbidde for the control of annual and perenntal grasses, broadleaves and brush species.

| Annual Weeds* | | Perenniat Weeds* | | Brush* |
|------------------|-----------------|-------------------|--------------------|--------------|
| 1 % Solution | | 1 1/2-2% Solution | | 2 % Solution |
| Annual bluograss | Marestall | Artichoke thistie | for plant | French broom |
| Annual ryegrass | Mustard | Bermudagrass | Johnsongrans | Muletar |
| Barryardgrass | Pigweed | Clover | Kikuyugrass | Oaks |
| Chickwood | Rapweed | . Dalliegrase | Pampasgrass | Polson oak |
| Crabgrass | Russian Inlette | Dandellon | Perennial ryegrass | Tree tobacco |
| l Valce | Sowthistle | field bindwead | Polson hemiock | Willows |
| Fortall | Spotted spurge | Fescus | | |
| London recket | Wild cate | Glant reed | | |

^{*}For complete est of species controlled, check the label.

SPRAY SOLUTION

| Dealred | An | nount of Roundup*Pro | |
|------------------------|----------|----------------------|-------------|
| Volume | 1% | 1 V2%- | 2% |
| 1 gallon | 1 V3 oz. | 2 oz. | 2 2/3 oz. |
| 25 gallons | 1 qt. | § 1/2 qts. | 2 c/s. |
| 100 gallons | 1 gal. | 1 V2 gale. | 2 gals. |
| 2 tablespoons = 1ounce | * | | |

Roundup Pro herbicide, a water soluble liquid, mixes readily with water to be applied as a foliage spray for the control of undestrable plants. Apply on a spray-to-wet basis.

2113645-1/53

| RESPONSIBLE PARTY: | DILUTION: |
|--------------------|-----------|
| ADDRESS: | |

General Directions:

ACCEPTED

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Under the Federal Insecticide. Fungicide, and Redenticide Act. un amonden, for the posticide engintered under TIH Rog. No. 524 4475

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

August 15, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202



Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Backpack Identification Sticker

Roundup® Pro Herbicide (EPA Reg. No. 524-475)

Dear Mr. Tompkins:

California requires users of pesticide spray solutions contained in backpack sprayers to identify the pesticide and the dilution rate. Monsanto has produced a sticker to aid our customers to properly tag Roundup Pro Herbicide in backpacks. We herein submit five (5) copies of this identification sticker for your records. Previously, Monsanto has submitted similar identification tags for on-farm transport containers for Roundup Herbicide (524-445), and the Agency has approved their use as labeling on 4-Feb-93.

Monsanto recognizes that this identification sticker does not meet the complete requirements for a pesticide label, and is only provided to facilitate grower's compliance with California regulations to identify the contents of backpack sprayers.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

CC:

R. P. Schneider

A. Hedgecock

113

TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468

| Please read instructions on r | everse before completi | ng form. | Form A | upproved. OMB No. | 2070-0060 | . Approval expires 2-28-95 |
|--|--------------------------------|--------------------------|---------------------------------------|--|---------------------|--|
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| | £ | Application for | r Pesticide - Se | ction I | | |
| 1. Company/Product Number | FOA 475 | | 2. EPA Product M | anager | 3. Pro | posed Classification |
| | 524-475 | | Mr Jame | s A Tomok | ms - | , <u>, , </u> |
| 4. Company/Product (Name) | | | PM#> | | \square \bowtie | None Restricted |
| | Roundup® Pro | Herbicide | 40 | | | |
| 5. Name and Address of App | licant <i>(Include ZIP Cod</i> | le) | 6. Expedited R | eview. In accorda | nce with | FIFRA Section 3(c)(3) |
| Monsanto Compa | ıny | | • | | | nposition and labeling |
| 700 14th Stree | et, N.W., Suite | 1100 | to: | | | , |
| Washington, DC | 20005 | | EPA Reg. No. | | | |
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| Check if this | is a new address | | Product Name | · | | <u></u> |
| | | S | ection - II . | - | | |
| Amendment - Explain | bolove | ······ | Single sin | ted labels in respons | | |
| Amendment - Explain | Delow. | | | etter dated | 5 IŲ | , |
| Resubmission in respo | onse to Agency latter d | lated | *Me Too | Application. | | |
| Notification - Explain | hainw | | Other - F | xptain below. | | |
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| Explanation: Use addition | al page(s) if necessary. | . (For section I and | Section II.) | _ | $\overline{}$ | , |
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| | | S | ection - III | · · · · · · · · · · · · · · · · · · · | | |
| 1. Material This Product Will | Be Packaged In: | | | | | |
| Child-Resistant Packaging | Unit Packaging | Wa | ter Soluble Packaging | 2. Type of | Container | |
| Yes* | Yes | l m | Yes | | Metal | |
| Nο | No | | No . | ļ , | Plastic Glass | |
| | If "Yes" | No per If | Yes" No.pe | | Paper | |
| ertification must be submitted | Unit Packaging wgt. | | kage wgt contei | | Other (S | pecify) |
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| 3. Location of Net Contents I. | nformation 4 | 4. Size(s) Retail Co | ntainer | 5. Location of Lat | | ns |
| Label Co | ontainer | | | | | panying product |
| 6. Manner in Which Label is a | Affixed to Product | Lithograph | [Ot | her | | |
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| · | | | ction - IV | | | |
| 1. Contact Point (Complete i | items directly below fo | | · · · · · · · · · · · · · · · · · · · | d, if necessary, to Di | ocess this | application.) |
| Name | | ···· | | | r | No. (include Area Code) |
| Dr. Russell P | . Schneider | 1"" | Agricultural R | eguración | | 783-2460 |
| ······································ | | L | Director | •••••••••••••••••••••••••••••••••••••• | | ···· |
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| I certify that the staten I acknowledge that any | | | | | | (Stamped) |
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| JULIV | 1 W Kaco | | lanager, Regist | .1 @ C 10(13 | | 1/4 |
| 4. Typed Name | J. Wratten, Ph | 5. Dat | ^e August 15, | 1997 | | " [F 6 |
| Scepilen | u. Wiatten, Pii | | 103000 403 | , | ; | : |
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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Sand comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable:
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections till, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections 1, 11, and IV must be completed by the applicant.

Block A -Check the appropriate action for which you are submitting this form:

SECTION t - This section must be completed, as epplicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fiff in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pasticide as it will appear on the label. The name must be specific to this product only.

 Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registrationatters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FiFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registratio, that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purposets) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Typu of Packaging Chack the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Sixe(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-tco," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.



FEE 25 1997

Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Ultra Herbicide (Brand Name and Label for Bulk Shipment)
EPA Registration No. 524-475

Your Application Dated August 6, 1997

The brand name "Roundup W Herbicide" is acceptable and has been added to the record for this product.

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Vafa E Weller for James A. Tompkins Product Manager 25 Herbicide Branch Registration Division (7505C)

ROUNDUP

Monsanto

ACCEPTED

AUG 26 1997

Under the Federal Insecticide. Functicide, and Rodenticide Act. on comended, for the posticide mediatored Nation EPA Rog. No. 52 - 47

Read the entire label before using this oroduct.

Use only according to label instructions. The contents of this container may not be REFORMULATED, nor, except in accordance with the Monsanto Repackaging Agreement.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Comestic Animals

Keep out of reach of children. CAUTION!

CAUSES EYE IRRITATION.

REPACKAGED.

Avoid contact with eyes or clothing.

FIRST AID: IF IN EYES, thish with olenty of water, Get medical attention il irritation cersists.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear longsleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. II no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundny.

EPA Est. 524-LA-1

User Safety Recommendations:

Users should:

- Wash hands before eating, drinking. chewing ourn, using tobacco, or using the
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean-clothing.

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, liberglass, plastic or plasticlined steel containers.

DO NOT MIX. STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if

ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

For more product information, call toll-free 1-800-332-3111.

Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of inn a landlill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures.

Emplied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Triple rinse emplied bulk container. Then offer for recycling or reconditioning, or dispase of in a manner approved by state and local authorities.

FOR REPACKAGING INTO HERBICIDES ONLY. .

ACTIVE INGREDIENT:

*Glyphosate, N-(phosphonomethyl) alycine, in the form of its INERT INGREDIENTS:59.0%

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active Ingredient glyphosate. in the form of its isopropylamine salt, Equivalent to 356 grains per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4.405.531. Other patents pending. No license granted under any non-U.S. patent(s).

In case of an emergency involving this product Call Collect, day or night, (314) 694-4000.

@MONSANTO COMPANY 1997

@Registered trademark of Monsanto Company.

EPA Reo. No. 524-475

EPA Est. 524-NC-1

EPA Est. 524-IA-1

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EPA Form 4579-13 (2-75)

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| Please read instructions or | reverse before completing form. | <u>.</u> . | Form Approve | d. OMB No. 2070- | 0060. Approval expires 2-28-95 |
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| \$EPA | United States Environmental Protecti Washington, DC 20 | | × | Registration Amendmen Other | |
| | Applicati | on for Pestic | ide - Sectior | ı İ | |
| | 524-475 | Mr | Product Manager . James | A Tompkins | 3. Proposed Classification X None Restricted |
| 5. Name and Address of A Monsant 700 14 Washin | pplicent linclude ZIP Code) O Suite (1) The St NW gron DC 2000 is is a new address | 6. Exp (b)(i), to: PFA | my product is si Reg. No uct Name | milar or identical i | with FIFRA Section 3(c)(3) n composition and labeling |
| | · · · · · · · · · · · · · · · · · · · | Section - | <u> 11 </u> | | |
| Amendment - Expli Resubmission in re Notification - Expla | sponse to Agency letter dated | | Final printed lab Agency letter d "Me Too" Appli Other - Explain | ication. | |
| | onal page(s) if necessary. (For section the addition a brand name | | | p W 6 24-475 | terbicido." |
| · | | Section - | · | | |
| Material This Product V | vill Be Packaged In: | | | | |
| Child-Resistant Packaging Yes* No Prtification must be submitted | Unit Packaging Yes No If "Yes" Unit Packaging wgt. No. per | Water Soluble Yes No If "Yes" Package wgt | Packaging No. per container | Pla Gla Pa | eainer etal estic ess per her (Specify) by K |
| 3. Location of Nat Content | S Information 4. Size(s) R Container | etail Container K. Ship n | . 1 | Location of Label Di On Label On Labeling a | |
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| | te items directly below for identificat | ion of individual to | be contacted, if n | ecessery, to proces | s this application.) |
| Name Dr. Ru | ssell P. Schneider | Ag. Re | g. Dire | Hor 70 | 972-383-2866 |
| l certifý that the sta l-acknowladge that both under applicab | Certific tements I have made on this form an any knowingly false or misleading sta le law. | d all attachments t | hereto are true, as nishable by fine o | scurate and complet r imprisonment or | 6. Data Application Received (Stamped) |
| 2. Signature | Media | 3. Title Manager, | Registrati | ons | |
| 4. Typed Name Steph | en J. Wratten, Ph.D. | 5. Date Au | gust 6, 199 | | 1/7 |

White - EPA File Copy (original)

Yellow - Applicant Cop

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications; reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

5.00 SECTION I - This section must be completed, as applicable, for all registration actions:

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2 EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product,
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registratio that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Concents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Cuntainer Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Inficate the location of the use directions for your product.
- 6. Manner in which labe! is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Controt Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "mo-top," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

August 6, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

1 ;

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Registration of New Brandname (EPA Reg. No. 524-475)

Roundup® W Herbicide

Dear Mr. Tompkins:

Monsanto provides growers with several herbicide products under the EPA Reg. No. 524-475. These include Roundup Ultra Herbicide, Roundup Pro Herbicide, and Roundup RT Herbicide. In some cases, product is shipped in bulk tank cars or by rail to repackaging facilities that package the end-use products under contract. Monsanto wishes to establish the brandname "Roundup W Herbicide" to identify these bulk shipments which may then be repackaged into any of the three end-use products.

Five (5) copies of a proposed label for Roundup W Herbicide are included. Monsanto had earlier inquired with Ms. Melissa Chun at EPA's Labeling Unit to determine the requirements for labels of pesticides that were being shipped in bulk for the purpose of repackaging. Her response is enclosed; it indicates that the full Direction for Use can be

replaced with the instructions "for repackaging into herbicides only" as we have done on the proposed label. Since Roundup W Herbicide does not include any directions for application, we have not included the Agricultural / Non-Agricultural Use Requirements boxes; these boxes are included on the end-use product labels as required by WPS.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten

Manager, Registrations

cc:

R. P. Schneider

D. Fee-White

D. Rasmusson

122

| 6/16 | Dawn White Monsanto | 314/694-6576 | Monsanto wants to ship their formulated product via railcars to manufacturing sites where the product is being packaged. The product moves directly from the railcar to the manufacturing site. Since the bill of lading is done electronically, there is no paper copy to attach the label to. Monsanto is proposing to attach a TYVAC (non-tearable) tag (with precautionary statements, WPS language, use instructions) to the discharge port of the railcar. | A copy of the label would normally accompany the papers with the driver under 156.10 (a)(4)il(A). Subsection (B) applies to tank cars which are stored (DOT + copy of label + shipping papers attached to discharge valve). Monsanto can attach tag to discharge valve, but this isn't a requirement. (David Stangel). Monsanto needs to send an electronic copy of the labeling with the bill of lading. A copy of the labeling only reeds to be attached to the train car if the product has been sold to and is being stored by the user (not a registrant). (Jeff Kempter). Shipping a product, even a fully formulated one, only for packaging, should not require the full end-use label. It needs basic identifying information, precautionary information, and words or instructions to the effect "for packaging only" into end use products. | C MLC 6/18 |
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*C = Call/cc:Mail task completed, message answered/problem resolved.

D = Delegated call/cc:Mall message, forwarded to another party.

W = Work in progress. Requested more information from caller. Will follow-up.

NF = Call/cc:Mail task completed, returned call or cc:Mail message, but some follow-up needec.

| OPTIONAL FORM 99 (7-90) | | |
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Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Ultra Herbicide (Produce Roudup Ready Canola

Seed)

EPA Registration No. 524-475

Your Application Dated June 23, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

Vicky Killallen for

James A. Tompkins Product Manager 25 Herbicide Branch Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label hoose and this supplement.

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

AUG 26 1997

Under the Federal Insecticide.
Fungicide, and Rodenticide Act.
as amended, for the posticide registered under
EFA Reg. No. \$2 4-4-7 [

USE ONLY FOR SEED PRODUCTION OF CANOLA WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup and Roundup Ready are registered trademarks of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, OTHER THAN CANOLA WITH THE ROUNDUP READY GENE, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

NOTE: THIS PRODUCT MAY BE USED FOR CONTROL OF NON-GLYPHOSATE TOLERANT CANOLA IN PRODUCTION FIELDS OF CANOLA CONTAINING THE ROUNDUP READY GENE. SEVERE INJURY OR DEATH WILL RESULT IF CANOLA VARIETIES WHICH DO NOT CONTAIN THE ROUNDUP READY GENE ARE SPRAYED WITH THIS PRODUCT.

USE RECOMMENDATIONS

This product will control non-glyphosate tolerant canola in seed production fields of canola containing the Roundup Ready gene. This product may be applied using ground spray equipment only. Apply 1 pint of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. A second application of 1 pint per acre may be applied, if needed to control non-glyphosate tolerant canola plants.

DO NOT EXCEED A MAXIMUM RATE OF 1 QUART OF THIS PRODUCT PER ACRE PER SEASON.

Application timing -- This product can be applied to Roundup Ready canola from emergence to the pre-flower (early bolting) stage.

Treated canola may not be used for food or feed. Do not feed or graze treated canola. Do not process treated canola for food or feed.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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| | 524-475 | Jä | mes A. Tompki | ns | <u> </u> | None Restricted |
| 4. Company/Product (N | ^{Iamo)} Roundup® Ultra Herbici | e PM # | 25 | | LXI' | None Restricted |
| 5. Name and Address of | of Applicant (Include ZIP Code) | 6. E | xpedited Review. | In accordance | with F | FIFRA Section 3(c)(3) |
| · Monsanto C | ompany ~5 | | • | | | position and labeling |
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| Label | Container | | | | accomp | senying product |
| 6. Manner in Which Lal | bel is Affixed to Product Litho | ograph or glued ociled | Other | | | |
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| 1. Contact Point (Com | plete items directly below for identificat | tion of individual (| o be contected, if ne | cessery, to proce | ess this e | application.) |
| Name | | Title Agric | ultural Regul | ation Te | lephone | No. (Include Area Code) |
| Dr. Russel | 1 P. Schneider | Direc | | | (202) | 783-2460 |
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| Steph | nen J. Wratten, Ph.D. | Ju | ле 23, 1997 | | | |
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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chiaf, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4):
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling:
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted or x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other posticida products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging. Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the nat contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affired to product Indicated the method product label is attached to retail container.

SECTION IV (Context Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explane*cry.
- 6. EPA Use Only.

United States Environmental Protection Agency Washington, DC 20460

SEPA Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address | | EPA File Symbol/Regi | | 24 475 | | | |
|---|---|--|---|---|--|--|--|
| Monsanto Company | | 524-475 | | | | | |
| 700 14th Street, N.W., Washington, DC 20005 | Suite 1100 | Roundup® Ultra Herbicide | | | | | |
| | · | Date of Application | Date of Application June 23, 1997 | | | | |
| NOTE: If your product is labeled for the same uses, Exemption Statement (EPA | you do not need to subu Form 8570-27). | nit this form. You mu | st submit the Formulat | or's | | | |
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| General Offer to persons, with reg | to Pay: I hereby offer and rard to the approval of this | agree to pay compensa application, to the exter | tion to other it required. | | | | |
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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 23, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475) Supplemental Label for Canola Seed Production

Dear Mr. Tompkins:

Enclosed for Agency review and approval are five (5) copies of a supplemental label for Roundup Ultra Herbicide which allows use on Roundup ReadyTM canola for the sole purpose of seed production. This use is necessary as a quality control measure to ensure that the seed produced by seed companies will be free of non glyphosate-tolerant canola seeds. Roundup Ultra Herbicide will be used to eliminate these non-tolerant plants from the production field. This label will be distributed only to three cooperating seed companies who will use it on no more than 4000 acres in California and Arizona. This step is crucial in the development of this new technology. Similar seed production labels were approved for use of Roundup Herbicide (524-445) on glyphosate tolerant soybean and cotton seed in 1994.

Presently, over-the-top treatment of canola plants with glyphosate-based herbicides is approved in Canada at application rates which parallel those proposed herein. Monsanto will file a US EPA application for this use on canola in late 1997 or early 1998. The proposed label will be to allow winter seed scale-up beginning in the autumn of 1997 in the warmer climates of the western US. This winter season seed production is not possible in Canada due to the colder climate. All of the resulting canola seed will be exported to Canada for further scale-up and commercial planting. Although this 1997-produced seed will be initially used in Canada, ultimately the US seed production will also be supported by this same key step.

Monsanto believes that the requested use on canola can be approved as a non-food use because of the certainty that none of the plant material will enter the US food supply.

Because of the very limited acreage and the fact that only three cooperators will be receiving
the label, Monsanto will have complete control of the seed and plant material at all times.

Mr. Tompkins Page 2 June 23, 1997

- After harvest of the canola seed, the remaining plant material will be destroyed by plowing. In the event that a canola seed production field is damaged (ie., by wind or flood), and cannot be grown to maturity, the remaining plants will be destroyed.
- This Roundup Ready canola will be separated from other canola by weed-free borders that do not allow cross pollination, according to USDA PERFORMANCE STANDARDS.
- Fields will be maintained in accordance with USDA requirements for isolation and security.
- Because of the investment Monsanto and the cooperating seed companies have made in the commercial introduction of Roundup Ready canola seed, the financial incentives strongly favor using the resulting seed for planting in Canada rather than commercial processing.

In summary, this label is needed by producers of Roundup Ready canola seed as a quality control tool in autumn 1997. The seed produced, or any of its derived processed fractions, will not enter the US food supply. Monsanto therefore requests that the Agency approve and stamp the enclosed supplemental labels. An application for pesticide amendment and Certification with Respect to Citation of Data are also enclosed. If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

cc: R. P. Schneider

Dr. Steve J. Wratten Monsanto Company 700 14th Street, NW Suite 1100 Washington, DC 20005

Dear Dr. Wratten:

Subject: Roundup Ultra Herbicide (Reduce PHI for Pistachios) EPA Registration No. 524-475 Your Letter Dated May 6, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you submit or cite all data required for registration/reregistration of your product under FIFRA sec. +; 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely,

Unface E Wellin, fro James A. Tompkins Product Manager 25 Herbicide Branch Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label bookler for Roundary and this supplement.

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

AUG 25 1997

Under the Federal Insecticide, Fungicide, and Rodenticide Act, an amonded for the positicide registered under EPA Reg. No. 424 -437

FOR PISTACHIOS UP TO THREE DAYS PRIOR TO HARVEST

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4068.

® Roundup is a registered trademark of Monsanto Company.

70 55

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT, OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product is recommended for weed control in established groves of pistachios. Applications may be made with boom equipment, shielded sprayers, hand-held and high volume wands, lances and orchard guns, CDA equipment or with wiper application equipment.

For specific rates of application and instructions, see the Weed Control Tables and Tree Nuts sections of the label booklet for Roundup Ultra herbicide.

Allow a minimum of 3 days between last application and harvest.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

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MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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| | Applica | tion for Pesticide - S | Section I | | | | | | |
| 1. Company/Product Nu | Monsanto 524-475 | | 2. EPA Product Manager Mr. James A. Tompkins | | | | | | |
| 4. Company/Product (N Roundup | ame) ® Ultra Herbicide | PM# | PM# 25 | | | | | | |
| Monsanto C 700 14th S | of Applicant <i>Unclude ZIP Codel</i> ompany treet, N.W., Suite 1100 , DC 20005 | (b)(i), my prod to: | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. | | | | | | |
| Check | f this is a new address | Product Nar | Product Name | | | | | | |
| | | Section - II | | | | | | | |
| Amendment - Ex | xplain below. response to Agency letter deted | Agenc | Final printed labels in response to Agency letter dated "Me Too" Application. | | | | | | |
| Notification - Ex | plain balow. | Other | - Explain below. | | | | | | |
| ↓; Submission | dditional page(s) if necessary. (For sec of Roundup Ultra Herbio pre-harvest Interval | | label to reduce | MAY -7 P3:41 | | | | | |
| | | Section - III | | <u></u> | | | | | |
| 1. Material This Produc | t Will Be Packaged In: | | | | | | | | |
| Cald-Resistant Packag Yes* No | Yes No | Water Soluble Packagin Yes No | Me Pla Gli | etal setic 98s | | | | | |
| * Certification mus be submitted | If "Yes" No. per Unit Packaging wgt. contains | | · P*' — — — | per her (Specify) | | | | | |
| 3. Location of Nat Cont | Container 4. Size(s) | Retail Container | 5. Location of Label Di On Label On Labeling a | rections ecompanying product | | | | | |
| 6. Manner in Which Lal | | hograph per gluad anciled | Other | | | | | | |
| | | Section - IV | | | | | | | |
| 1. Contact Paint (Cam | plate items directly below for identific | ation of individual to be conta | cted, if necessary, to proces | s this application.) | | | | | |
| Name Dr. Russe | ll P. Schneider | Tide Agricultural Director | Regulation | phone No. (Include Area Code) 02) 783-2460 | | | | | |
| | statements I have made on this form lat any knowingly false or misleading | | | 8. Date Application Received (Stamped) | | | | | |
| 2. Signature | Metat | 3. Tide Manager, Regist | ager, Registrations | | | | | | |
| 4. Typed Name Steph | en J. Wratten, Ph.D. | 5. Date May 6, 19 | 5. Data May 6, 1997 | | | | | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for raducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Weshington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of dreft labels with all applications for new registration. Such draft labels may in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections 1, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the tabal. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registra matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration; that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for agreeubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "raregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 6, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Supplemental Label to reduce Pistachio Pre-Harvest Interval

Dear Mr. Tompkins:

Monsanto herein submits information from IR-4 in support of a proposal to reduce the pre-harvest interval (PHI) for Roundup Ultra Herbicide used on the minor crop "pistachio nuts" from 21 days to 3 days. In addition, Monsanto also submits a Supplemental Label amendment to this registration for the Agency's review and approval to implement this change.

The proposal is based on IR-4's and Monsanto's belief that EPA plans to soon incorporate pistachio nuts into the Tree Nuts Crop Group (Crop Group 14). Roundup Ultra Herbicide labels presently specify a 3 day PHI for Tree Nut crops, but require a 21-day PHI for pistachio nuts. The 21-day PHI specified for pistachios is an artifact of the residue data that were developed on pistachios many years ago rather than any specific Agency concern about a shorter PHI. This will achieve consistency and uniformity among these tree nut crops and minimize confusion by growers. Use of a Supplemental Label to implement the change is similar to the process the Agency approved 25-March-96 to allow a shorter PHI on citrus.

Both pistachios and Tree Nuts have 0.2 ppm tolerances established. Since Roundup Ultra Herbicide is applied to soil around the tree rather than to the foliage, the shorter PHI provides less time for uptake and transport of residues into the nuts than the present 21-day PHI, indicating that the current tolerances will be sufficient to account for any potential residues in the nuts.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

R. P. Schneider
Edith Lurvey, 1R-4

cc:

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460



OFFICE OF PREVENTION, PESTICIDES, AND TOXIC SUBSTANCES

March 4, 1997

<u>MEMORANDUM</u>

SUBJECT: Review of Amendment to Include Pistachio Nuts as a Member of the Tree Nut

Crop Group (40CFR§180.41). Evaluation of the Supporting Data. No MRID#.

DP Barcode D212794. CBTS# 15228.

Blumand U.

Bernard A. Schneider, Ph.D., Plant Physiologist FROM:

Chemistry Branch I - Tolerance Support

Health Effects Division (7509C)

THRU: Randy Perfetti, Ph.D. Acting Chief

Chemistry Branch II - Reregistration Support

Health Effects Division (7509C)

Elizabeth Haeberer, Acting Chief

Chemistry Branch I - Tolerance Support

Health Effects Division (7509C)

TO: Hoyt Jamerson, Product Manager

Emergency Response and Minor Use Section

Registration Division (7505C)

And

Mike Metzger, Acting Chief Risk Characterization & Analysis Branch

Health Effects Division (7509C)

R-4 Study 0637

George M. Markle, Associate Director, Interregional Research Project No. 4 (IR-4) submitted a proposed amendment on February 27, 1995 on behalf of the IR-4, the California Pistachio Commission, and the University of California to add pistachio nuts to the Tree Nuts Crop Group (40CFR§180.41). The amendment consists of supplementary information on

pistachio nut phenology and harvesting, production and distribution of tree nuts, comparison of residue data between nut crops, information on Codex harmonization, and comparative pest information on pistachios and almonds. Letters of authorization to use residue data on tree nuts were received from FMC, ISK Biosciences, and CIBA.

CONCLUSIONS

- 1a. The pistachio nutmeat is enclosed in a fleshy hull composed of three distinct tissue layers which includes: an epicarp or outer layer; a mesocarp or middle layer; and endocarp the hard inner layer or shell.
- 1b. The epicarp and the mesocarp combine to form the fleshy hull that protects the nut. The endocarp will become the hard nutshell that protects the edible embryo or nutmeat (RAC).
- 1c. It is the hard nutshell enclosed in the protective fleshy hull that splits or dehisces near harvest, and even though up to 80 % of the nut shells may be split at harvest, over 97 % are still enclosed and well protected from surface pesticide residues by the outer intact pericarp layers at harvest.
- 1d. Only 2.4 % of the pistachios had both the outer hull and shell split at harvest and these are called "early splits".
- 1e. Early splits are not desirable and 91 to 93 % of the early splits are currently sorted out by high speed bichromatic sorters after harvest and discarded during processing because of being poor quality and being vulnerable to or carriers of aflatoxins.
- 1f. Several research projects are designed to reduce the number of early splits by improved cultivar development or by developing better processing and sorting equipment. A new machine vision bichromatic sorting system will improve the number of early splits removed to > 99 %.
- 2. Residue trial data and established tolerances comparing pesticide residue levels in pistachios with other tree nuts have consistently been similar.
- 3. Imported pistachios account for less than 1.0 % of all pistachios consumed in the U.S., thus early splits appearing from the different cultivars from these countries would be an extremely insignificant amount.
- 4. Pistachios share the same weed, nematode, insect and plant disease, and post harvest storage problems that affect the other members of the Tree Nuts Crop Group.

- 5. Almonds are a better representative commodity than pistachios for the Tree Nuts Crop Group because almonds have significantly higher percent hull splitting; more of the developed almond nutmeat is present during pesticide applications; almonds have a livestock feed item (hulls); almonds are produced in much larger quantities; and almonds have a more porous and soft shell.
- 6. Based on similarities of pesticide residue levels, cultural practices, pomological similarities, production regions, and pest problems pistachios should be included as a member of the Tree Nuts Crop Group.
- 7. There are no animal feed items associated with pistachios.
- 8. Addition of pistachios to the Tree Nut Crop Group will harmonize with the CODEX classification, since they are already members of CODEX Group 22: Tree Nuts.

RECOMMENDATIONS

Chemistry Branch recommends including the pistachio (Pistacia vera L.) as a member of the Tree Nuts Crop Group (40CFR§180.41). All deficiencies regarding including pistachio nuts in the tree nut crop group have been resolved. We expect pesticide residues in the pistachio nutmeat to be similar to the other nut crops that are members of the Tree Nut Crop Group, because the outer hull remains intact completely covering and protecting the nutmeat even after the shell has split. These early splits are further removed during processing by automated high speed bichromatic machines and by hand sorting such that > 99 % of the culls are removed at the packinghouse.

Common names for pistachios to be added to the Crop Group Index are 'green almond' and 'pistacia nut'. There will be no change to the representative commodities for the Tree Nut Crop Group. The representative commodities are almonds and pecans.

NOTE: Chemistry Branch would like to thank both IR-4 and Dr. Louise Ferguson, Extension Pomologist, University of California at Davis and Mr. Eric Harmon for arranging and collecting weekly samples of in-hull pistachio during the growing season for us to investigate. The resultant observations and data were essential in determining that pistachios should be a member of the Tree Nuts Crop Group.

DETAILED CONSIDERATIONS

BACKGROUND:

Chemistry Branch has considered the inclusion of pistachio nuts to the tree nut crop group four times (memos of F. Griffith, Jr., RCB No. 1057, 9/25/85; R.W. Cook, 2/25/85; E. Leovey, 4/16/80, and R.B. Perfetti, 10/9/79), and all of these previous requests were rejected by CB (previously RCB). All of the outstanding deficiencies regarding including pistachio nuts in the tree nut crop group have been resolved, except for CB concerns "that the unsealed husks or shells (splits) found in pistachio nuts would expose the edible portion to significantly higher residues than would occur in other tree nuts" (memo F. Griffith, Jr., RCB No. 1057, 9/25/85).

The Chemistry Branch had also previously thought that since the pistachio nut shell splits before harvest, it would be readily exposed to pesticide applications. However, literature references indicate (30, 31) that although the pistachio shell splits before harvest, the nutmeat remains inside an intact hull so it may not be exposed to a pesticide. The critical issue with pistachios will be to determine how intact the outer hull that surrounds the shell and nutmeat remains during the season from flowering to harvest.

Since the critical remaining issue was to determine the exposure of the actual pistachio nutmeat to pesticide applications, Dr. Schneider arranged with IR-4 (G. Markle), to submit pistachio nuts at weekly intervals for up to a 6-week period ending at harvest. These samples helped CB determine the extent that the outer hull around the actual nutmeat stays intact and if it could prevent the possibility of direct pesticide residues to the nutmeat before harvest. IR-4 arranged for Dr. Louise Ferguson, Extension Pomologist, University of California at Davis and Mr. Eric Harmon, student at Fresno working for Dr. Ferguson to collect from a commercial pistachio orchard approximately one kg of in-hull pistachios from July until harvest on September 22, 1995. The samples were counted for number of hulls split, extent of hull cracking and dissected to determine if the nut shells were split or open. Chemistry Branch would like to thank these researchers for their cooperation in obtaining and shipping pistachios in various stages of development for the 6-week period before harvest. In addition, CB conducted a comprehensive literature search on pistachio hull splitting and current research projects in USDA on pistachios. All of the above combined data were used to determine the extent that the outer fleshy hull stays intact even after the inner shell splits.

In order to understand the pistachio hull and shell splitting and their influence on potential pesticide residues in the nutmeat, an understanding of the botanical (pomological) terms that relate to the fruit or drupe of the pistachio is necessary and will be discussed below.

Date 12

POMOLOGICAL FACTORS RELATING TO PISTACHIO HULL SPLITTING:

Botanically, pistachios and almonds have fruits called drupes. In the case of tree nuts, the drupe consists of a single edible seed lying inside a thin but hard bivalve shell that is surrounded by a fleshy hull or pericarp. The pericarp consists of three layers or tissues. These three layers of the pericarp are as follows: [1] an epicarp or outer layer; [2] a mesocarp or middle layer; and [3] endocarp the hard inner layer (12). The epicarp and the mesocarp combine to form the fleshy hull that protects the nut. The endocarp will become the hard nutshell that protects the edible embryo or nutmeat (RAC). In both the pistachio and the almond the outer skin of the fleshy hull is the epicarp, while the bottom layer of the fleshy hull is the mesocarp, and these two layers help protect the nutmeat that is also encased in the hard shell (endocarp) from pest problems. It is the hard nutshell of the pistachio enclosed in the protective fleshy hull that splits or dehisces near harvest.

After pollination and fertilization (April), the ovary walls or pericarp enlarges rapidly in length and diameter and within six to eight weeks (middle May) attains its full size (7). However, while the shell has become full-sized and hard it is still nearly empty. The embryo of the pistachio, which is in the shell, begins rapid expansion in late June and grows rapidly after this stage, maturing within 16 weeks or approximately 140 days after pollination (3, 4, 5, 15). As the fruit matures, the fleshy hull becomes soft and the endocarp layer partly separates from the shell. Inside the hull, the shell turns opaque white in color and splits (or dehisces) longitudinally as a normal part of abscission because of the seed (nutmeat) enlarging and exposing the purple-red seed coat (last week of July thru August) but at this growth stage the outer hull still remains intact (8). This normal splitting of the nutshell is a highly desirable characteristic that plant breeders utilize in their selections, and is also favored by consumers because of the ease in hand-shelling the nut (8, 29, 30, 32). Nonsplit shells (21) may range up to 20% of the harvest and are sorted out during processing and sold as broken nutmeats. Currently, hulls are removed completely by abrasive peeling machines, followed by separation of split from unsplit shells by a water flotation method and/or by air jetting. Nuts that don't split are undersized, stained, and not desirable for the consumer. In addition, early splitting is a problem since it encourages aflatoxin and insect contamination/damage as well as staining to the shell that makes a low quality nut. Approximately 1.5 to 2.5% of the nuts are unmarketable due to early splitting or empty shells (6, 14, 17, 21, 22). Harvesting is gauged by the change in the color of the outer pericarp layer from translucent pinkish-green to opaque as well as a softening and loosening of the hull from the shell (8). The fruit or drupe will not abscise or drop from the tree at this time, but the hulls or pericarp (epicarp + mesocarp layers) will continue to dry and shrivel for several weeks.

Early splitting of hulls exposing the nut is not a desirable characteristic, and currently there are several research projects on pistachios designed to either select for cultivars that produce less early splits by eliminating from breeding programs cultivars that exhibit this predisposing trait [7, 10, 11, 13, 14, 18, 29, 30, 32] or to develop techniques to sort out these

early split nuts while processing the harvested nuts [7, 14, 21, 22, 29]. Current processing techniques used to sort out pistachios by automated high speed bichromatic sorters that will sort up to 144,000 pistachios/hour and combined with hand sorting for culls will remove 91 to 93 % of the early splits (33). A newly developed "machine vision" computerized system bichromatic sorter has been developed and can sort out > 99 % of the early splits (24, 25).

ANALYSIS OF PISTACHIO HULL SPLITTING:

Chemistry Branch received eight separate shipments of approximately 1 kg in-hull pistachios from Dr. Louise Ferguson, Extension Pomologist and Mr. Eric Harmon at the University of California, Davis that were sampled from July until harvest on September 22, 1995. The samples were collected manually and at random on 9/21/95 from a commercial pistachio orchard using the cultivar 'Kerman' in Kern County, Parlier, CA. Over ((% of the pistachios harvested in the U.S. are the 'Kerman' cultivar. The samples were placed in plastic bags and kept refrigerated until shipment to Dr. B. Schneider's home in Columbia, Maryland where they were stored in the refrigerator and analyzed within 48 hours after receipt. The hulls at harvest were light greenish-yellow in color and could be easily removed from the nut shell by rubbing between the thumb and forefinger. Over 2100 in-hulled pistachios were individually counted as part of this study. The samples were counted for number of hulls that split, extent of hull [pericarp and or mesocarp] cracking, color of hull, and were then dissected to determine if the nut shells were split or open, and the data is summarized in Table 1. For a discussion of the three tissue layers that comprise the hull see the previous section entitled: "Pomological Factors Comparing Pistachios and Other Members of the Tree Nuts Crop Group."

The splitting of the hulls that occurred are different for the two tissue layers [pericarp and mesocarp] that surround the shell [endocarp]. The outer layer of the hull or pericarp splitting started at 30 days before harvest and was only 2.2% at that time but increased up to 50 % at harvest. In contrast, the inner or mesocard layer of the hull that also feels leathery was completely intact until 14 days before harvest (1.1 %) splits with only 2.4 % splits at harvest. Therefore, only 2.4 % of the pistachio nuts that are split would be exposed to any surface pesticide residues. However, CB considers the 2.4 % of the pistachios that have the hulls and nut shells split at the same time an overestimation for several reasons. First, these early split nuts are usually sorted out after harvest during processing because poor quality nuts are removed and discarded before they reach commercial use [21, 22, 23]. Newer machine vision sorting technology will sort out > 99 % of the early splits in the processing line. Also, these split nuts are mechanically separated from normal pistachios because they are vulnerable to or carriers of the carcinogenic aflatoxin mold [Aspergillus flavus] (4, 28, 29). Another botanical related factor that protects the nutmeat in shells that have split from pesticide residues is the fact that the outer hull begins to split at the stem end, while the open nut shell faces downward in the opposite direction and is still fully protected by the leathery inner layer or mesocarp. So, when the shell is split open the hull is still intact, except in one to four % of the cases where the hulls adhere

tightly to the shell and split along with the shell. These are called "early splits". Plant breeders are continuing to develop improved cultivars that will have even less early split nuts before harvest [32]. In addition, over 97.6 % of the pistachio nut shells that are split were still protected by an intact inner hull layer or mesocarp. Our research numbers are very close to those reported in the scientific literature and in USDA current research project reports which showed that 1.0 to 4.0 % of pistachios are considered to be "early splits" in which the hull splits along with the shell [10, 21, 29].

Table 1. Determination of Pistachio Hull Splitting From 53 Days Before Until Harvest. (7/31 to 9/22/95).

| Days Before | Sample Size | Nut Shell Open | Hull Splits (%) | | | |
|-------------|--------------------------|----------------|------------------------|---------------------------|--|--|
| Harvest * | (number of nuts counted) | (Splits) [%]** | Pericarp (outer layer) | Mesocarp (inner layer) | | |
| 53 | 272 | 0 | 0 | 0 | | |
| 43 | 232 | 0 | 0 | 0 | | |
| 36 | 235 | 0 | 0 | 0 | | |
| 30 | 229 | 50 . | 2.2 | 0 | | |
| 22 | 251 | 50 | 8.0 | 0 | | |
| 14 | 270 | 52 | . 13.0 | . 1.1 | | |
| . 7 | 450 | 58 | 42.0 | 2.0 | | |
| 0 | 250 | 80 | 50.0 | 2.4 | | |

- * The dates of sample collection are as follows: 7/31; 8/7; 8/14; 8/22; 8/30; 9/5; 9/12; and 9/22/95.
- ** The number of nut shells that are open was from the huil (split) samples. Nut shells counted in the unsplit hull samples averaged 40% shell split at the last sampling date.

By this independent study, Chemistry Branch has confirmed that the shells of pistachio nuts split naturally in the orchard [\leq 80 %] prior to harvest, but the hull stays intact, covering and protecting the kernel from an invasion by molds, insects, and nonsystemic pesticides. Early split hulls were in the range of \leq 2.4 % by harvest, and none occurred before 14 days before harvest. As the pistachio drupe (fruit) matures the outer hull (epicarp + mesocarp) loosens from the shell (endocarp) that covers the seed (nutmeat) until the shell splits. The hull still remains intact completely covering and protecting the shell even after it has split. The early splits are usually sorted out prior to the pistachios entering commerce and in the future improved sorting techniques will remove > 99 % of the early splits.

Therefore, the deficiency regarding CB concerns "that the unsealed husks or shells (splits) found in pistachio nuts would expose the edible portion to significantly higher residue higher pesticide residues than would occur in other tree nuts" (memo F. Griffith, Jr., RCB No. 1057, 9/25/85) is resolved. We expect pesticide residues in the pistachio nutmeat should be similar to the other nut crops that are members of the Tree Nut Crop Group. For a discussion comparing pesticide residues in the tree nuts, see the next section of this report entitled: "Comparisons of Residue Levels in the Tree Nut Crops".

COMPARISONS OF RESIDUE LEVELS IN THE TREE NUT CROPS

Over the years tolerances have been established for pesticides on almonds; pecans; pistachios; nuts; nutmeat; and the tree nut crop group (40CFR§180). There are 15 established tolerances for pesticides on pistachios that can be compared with those registered on similar pesticides for other tree nuts (Table 2). In all cases except for permethrin, the established tolerances are identical. Even with permethrin [§180.378], the tolerance of 0.1 ppm established on a pistachio is well within the Crop Group limit of 5X for the other tree nuts that are established at 0.05 ppm.

| | | | | • | i e |
|----------|----------------|------------------|---------------|---------------|----------------------|
| T-L1- 2 | O | TO A 1.15 (1.1.) | T 1 | The | and Tree Nut Crops. |
| Table 7. | Lomparion of | とくだるわけられるか | T Olerances t | OF PISTACHIO | AND THE MILL TOUS |
| | Comparation of | | TOTALICES I | Of T 1367CHIO | and Tice that Crops. |

| Pesticide (CFR Citation) | Pistachio Tolerance (ppm) | Tree Nut Crop Tolerance (ppm) |
|-----------------------------------|---------------------------------|--|
| Benomyl [§180.294] | 0.2 | 0.2 (nuts) |
| Glyphosate [§180.364(a)] | 0.2 | 0.2 (nuts) |
| Magnesium phosphide [§180.375] | 0.1 | 0.1 (almonds, filbert, pecans, walnut) |

| Pesticide (CFR Citation) | Pistachio Tolerance (ppm) | Tree Nut Crop Tolerance (ppm) |
|-----------------------------------|---------------------------------|--|
| Permethrin [§180.378] | 1:0 | 0.05 (almond, filbert, walnut) |
| Azinphos-methyl [§180,154] | 0.3 | 0.3 (almond, filbert, pecan, walnut) |
| Carbaryl [§180.169] | 1.0 | 1.0 (almond, filbert, pecan, walnut) |
| 2,4-D [*] [§180.142(b)] | 0.2 | .0.2 (nuts) |
| Napropamide [§180.328(a)] | 0.1 | 0.1 (nuts) |
| Oryzalin [§180.304] | 0.05 | 0.05 (nuts) |
| Oxadiazon [§180.304] | 0.05 | 0.05 (Brazil nuts, bush nuts, butternuts, cashews, chestnuts, filbert, hickory nuts, macadamia nuts, pecans, walnuts |
| Oxyfluorfen [§180.381] | 0.05 | 0.05 (tree nuts group (except almond hulls) |
| Paraquat [§180.205] | 0.05 | 0.05 (nuts) |
| Phosmet [§180.261] | 0.1 | 0.1 (nuts) |
| Aluminum phosphide [§180.225] | 0.1 | 0.1 (almonds, Brazil nuts, walnut) |
| Inorganic bromides ;(§180.123] | 200 | 200 (almonds, Brazil nuts, bush nuts, butternuts, cashews, filberts, hickory nuts, pecans, walnuts) |

IR-4 also submitted comparative field residue data for use of azinphos-methyl (IR-4 and Miles Agriculture Division) and carbaryl (Rhone-Poulenc) on various tree nuts and pistachios that were previously reviewed by CB to establish the tolerance levels for these pesticides. Tolerances for azinphos-methyl [§180.154] were established at 0.3 ppm for pistachio, almond, filbert, pecan, and walnut; while tolerances for carbaryl [§180.169] were established at 1.0 ppm for pistachio, almond, filbert, pecan, and walnut (Table 2).

- 1R-4 Study 06377 Page 17 Therefore based on residue data used to establish tolerances for use of 15 pesticides in/on pistachios and other tree nuts, CB concludes that residues from pistachios are similar to those found on all other members of the Tree Nut Crop Group.

EVALUATION OF REPRESENTATIVE COMMODITIES FOR THE TREE NUTS CROP GROUP:

The current representative commodities for the Tree Nuts Crop Group are almond and pecan. Botanically, both pistachios and almonds have fruits called drupes. In the case of tree nuts, the drupe consists of a single edible seed lying inside a thin but hard bivalve shell that is surrounded by a fleshy hull or pericarp. Since CB is recommending to include pistachios as a member of the Tree Nuts Crop Group, it also investigated whether pistachios should replace almonds as the representative commodity. Pistachios are not considered a replacement for pecans because of the relatively limited geographical production area for pistachios, whereas almonds and pistachios are grown in the same region.

Almonds are still considered to be a better representative commodity than pistachios for several reasons: first, the nutmeat and shell develop simultaneously in almonds (Feb-mid-June) so that any pesticides that are systemic and applied to the foliage during this time may be translocated to the nutmeat. Pistachios on the other hand have the shell growing during this stage and increasing in diameter, but the embryo and nutmeat do not begin their growth until July 1. Therefore, the nutmeat in pistachios is not present from pollination (mid-April through June) in contrast to almonds (20). Secondly, differences in maturity of the hulls make almonds a worst case for estimating pesticide residues. In almonds, the outer hull readily splits, but the nut shell does not, whereas in pistachios the outer hull stays almost completely intact (for more details see analysis of pistachio hull splitting section) while the nutshell begins splitting (dehiscing) from late August until September 15. One of the ways to determine the physiological maturity of the pistachio is by the ease in which the hull (epicarp + mesocarp) separates from the nut shell. Pistachios must be harvested before the hull degenerates so that the nutshells will not be stained (7). Therefore, in pistachios the outer hull stays intact through parvest preventing residue accumulation on the nutmeat, whereas the almonds split from their fleshy hulls at maturity which allows the nut to drop to the ground, and some cultivars such as 'Nonpareil' can range from 18 to 82 % splits. The almond shell is also more porous or papery (genetically soft shelled) and softer than the pistachio shell (2, 16, 19).

While the scientific literature (10, 30, 32) and our own analysis indicate that from < 1% to 4% of the pistachios have early split nuts and hulls, these are later removed as culls during processing to remove the stained nuts to prevent aflatoxin contamination. Pistachios are the only tree nut that has open split shells at harvest, but > 97% of these are protected by an intact hull. Pistachios also have less opportunity for pesticide residue accumulation in the nutmeat because foliar translocation to the developing nutmeat does not occur when most pesticide applications

to control insect and plant diseases are made, and the nutmeats at harvest are still protected by the outer hull. Imported pistachies during 1993-94 accounted for < 1.0 % of the total pistachies consumed in the U.S. (9). Approximately, 81.5 % are imported from Turkey. Therefore, any early split pistachies that may be imported would be an insignificant component of the diet.

Pest problems in almonds and pistachios are similar [see section on comparison of pest problems in pistachio and other tree nut orchards]. Only almond hulls are a significant livestock feed item in the tree nut crops. Pecans, the other tree nut crop group representative commodity, has a much wider geographical distribution than either almonds or pistachios. Therefore, based on almonds having a livestock feed item; more percent hull splitting; more of the developed nutmeat present during pesticide applications; the same geographical region; and a more porous or papery shell, Chemistry Branch does not recommend to change the present representative commodities of the Tree Nut Crop Group.

COMPARISON OF PEST PROBLEMS IN PISTACHIO AND OTHER TREE NUT ORCHARDS:

Pistachios share the same weed, nematode, insect and plant disease, and post harvest storage problems that affect the other members of the Tree Nuts Crop Group [1, 7, 8, 10, 14, 17, 18, 26, 27]. Pests of almonds such as the naval orangeworm (Ameyelois transitella) often invade pistachio orchards [1, 26].

LIVESTOCK FEED ITEMS:

There are no animal feed items associated with pistachios. The representative commodities for Crop Group 14: Tree Nuts are almonds and pecans, and only almond hulls are a livestock feed item in this Crop Group.

HARMONIZATION WITH CODEX:

CODEX places pistachio in its Crop Group 22: Tree Nuts. Addition of the pistachio to U.S. Crop Group 14: Tree Nuts will harmonize the two Crop Group systems with regard to pistachios.

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PROPOSED LABLE CHANGE

Roundup® Ultra Herbicide EPA Reg. No. 524-475

Remove the statement printed in **bold** from the Roundup® Ultra label:

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of the tree nuts, except pistachio nuts. For pistachio nuts allow a minimum of 21 days between last application and harvest.

The new section should read as follows:

8.19 Tree Nuts

LABELED CROPS: Almond, Beechnut, Brazil nut, Butternut, Cashew, Chestnut, Chinquapin, Filbert (Hazelnut), Hickory nut, Macadamia, Pecan, Pistachio, Walnut (Black, English).

TYPES OF APPLICATIONS: General weed control, middles (between rows of trees), strips (in row of trees), selective equipment.

NOTE: FOR GENERAL USE DIRECTIONS, SEE THE "TREE NUT AND VINE (GENERAL)" SECTION. THE FOLLOWING DIRECTIONS ARE SPECIFIC TO TREE NUTS. 1

PRECAUTIONS, RESTRICTIONS: Allow a minimum of 3 days between last application and harvest of the tree nuts.

Please note that the Roundup® Ultra label is written such that the application rates are dependent on the weeds to be controlled (Sections 10, 11 and 12 of label), and range from 0.37 to 5 quarts (0.27 to 3.75 lbs acid equivalent or 0.36 to 5 lbs isopropylamine salt(ai)) per acre.

Note: See Registered Label in Section A for Registered Uses and General Product Information.

SUMMARY OF PROPOSAL TO REDUCE

THE PRE-HARVEST INTERVAL FOR

THE USE OF GLYPHOSATE IN/ON PISTACHIO

IR-4 has received a request from California to reduce the pre-harvest interval (PHI) for glyphosate in/on pistachio (*Pistacia vera* L.) from 21 days to 3 days (attached). The reduced PHI is necessary for the use of micro-sprinkler irrigation. Pistachios must be have consistent and adequate quantities of water just before harvest to induce shell split. "Non-split nuts are considered defective and are of little economic value." "Shortening the pre-harvest interval for Roundup in pistachios . . . would be of great economic benefit to us and our industry." (letter from Kevin D. Olsen, August 29, 1994 - attached).

The application of glyphosate in pistachio would remain an orchard floor spray, as currently labeled. However, the 21 day pre-harvest interval restriction would be removed and replaced with the 3 day PHI as per the other tree nuts. As shown in 40 CFR 180.364 (attached), a 0.02 ppm tolerance exists for Nuts, that is the Tree Nuts Crop Group, 40 CFR 180.41(14), which includes almond, beech nut, Brazil nut, butternut, cashew, chestnut, chinquapin, filbert (hazelnut), hickory nut, macadamia, pecan and walnut (black, English).

The EPA Chemistry Branch II has issued a Memorandum recommending the inclusion of pistachio in the Tree Nuts Crop Group. "The Chemistry Branch recommends including the pistachio (*Pistacia vera* L.) as a member of the Tree Nuts Crop Group (40 CFR 180.41). All deficiencies regarding including pistachio in the tree nut crop group have been resolved. We expect pesticide residues in the pistachio nutmeat to be similar to the other nut crops that are members of the Tree Nut Crop Group," page 3, Chemistry Branch II Memorandum, March 4, 1997 (attached)).

The fate and behavior of glyphosate in plants is well know and understood. Extensive experience and data with glyphosate in/on tree fruit and

Given the slower absorption and symplastic translocation of glyphosate in plants, the potential for residues is greater with the longer pre-harvest interval. Therefore, the glyphosate residues at 3 days will not exceed the residues at 21 days, <0.2 ppm. See the WSSA Herbicide Handbook - 7th Edition, 1994 section on glyphosate and the pertinent pages from Applied Weed Science, Ross and Lembi (attached) for a more detailed discussion of glyphosate properties.

With the data available to EPA on glyphosate's metabolism and fate in tree fruit and nuts, and the possible inclusion of pistachio in the Tree Nuts Crop Group, it is reasonable to remove the 21 day PHI requirement replacing it with a 3 day PHI as per the other tree nuts. Therefore, no additional data should be needed in order to remove the 21 day pre-harvest interval restriction on pistachios, replacing it with a 3 day PHI as per the other tree nuts. Changing the pre-harvest interval for the grove floor application of glyphosate in/on pistachios is appropriate. It has the potential to actually reduce the overall herbicide load applied to the crop. And finally, it will not expose animals, man or the environment to unreasonable adverse effects.

Pome Fruit, MRID No. 00108129; Stone Fruit and plums, MRID No. 00111949; Tree nuts and Pistachios, MRID No. 00111945; Avocados, MRID No. 00108149; Bananas, MRID No. 00108175; Breadfruit, Canistel, Dates, Jaboticaba, Jackfruit, Persimmons, Sapote (black and white) and Soursop, MRID No. 40149401; Coffee beans, MRID Nos. 00051980 and 00051981; Guavas, MRID No. 00059050; Mangoes, MRID No. 40580401; Ofives, MRID No. 00108175 and 42398401.

SUPPORTING INFORMATION

IR-4 Pesticide Clearance Request Form

Letter from Kevin D. Olsen, dated August 29, 1994

40 CFR 180.364

Review of Amendment to Include Pistachio Nuts as a Member of the Tree Nut Crop Group (40 CFR 180.41). US-EPA Memorandum, Chemistry Branch II, Bernard A. Schneider, dated March 4, 1997

Glyphosate. WSSA Herbicide Handbook - 7th Edition, 1994

Applied Weed Science, Merrill A. Ross and Carole A. Lembi, Burgess Publishing Company, Minneapolis, Minnesota, pages 73-72, 82, 157, 169-171.

ROUNDUP® ULTRA LABEL

PROPOSED LABEL CHANGE



IR-4 Minor Use Pesticide Clearance Request Form

| POR OFFICE USE ONLY Dale: \$\\95\\ Cal.: 06 6377 | | |
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See Reverse Side for Directions and Additional Space for Comments

IR-4 Project, Cook College, Rutgers University P.O. Box 231, New Brunswick, NJ 08903 Phone (908) 932-9575 • FAX # (908) 932-8481

S & J RANCH, IN(



August 29, 1994

P.O. Box 3347
Pinedale, California 9365
39639 Ave. 10, Madera, C.
(209) 439-2598

Mr. Bill Fischer UC Farm Advisor Emeritus 482 W. San Ramon, #101 Fresno, CA 93704-3223

Dear Bill:

I would appreciate any help you could render in shortening the pre-harvest interval of Roundup in pistachies. It would be of great economic benefit to us and our industry.

At the current pre-harvest interval of 21 days, we have a problem of the blocks under heavy weed pressure developing excessive weeds before harvest. These weeds interfere with the water application of our micro-sprinklers. Consistent and adequate quantities of water are critical on pistachios just before harvest. Inadequate moisture lessens the percent of nuts in which the shell splits. Non-split nuts are considered defective and are of little economic value.

We apply pre-emergents beginning October 1. If there has been excessive accumulation of vegetation on the berms, we must first go through the field and eliminate this problem. This causes an additional trip through the field which adds to our economic burden, and adds to the pesticide load upon the environment.

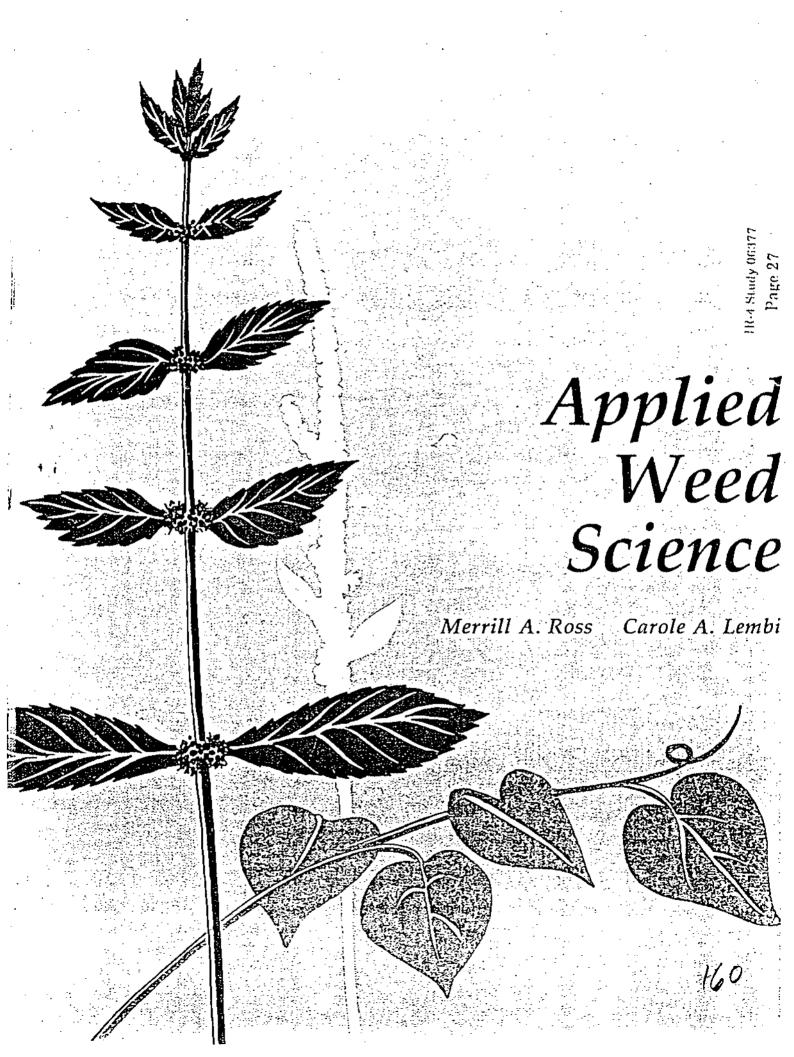
If you have any questions or would like further elucidation, please call or write.

. Sincerely,

S & J RANCH, INC.

Kevin D. Olsen, M.S.

Manager, Technical Services, North Valley



Development editor: Nancy Crochiere Assistant development editor: Charlene J. Brown Copy editor: Kathleen K. Wolter Production: Judy Vicars Design: Judy Vicars Cover design: Mindy Theissen Line illustrations: Kathy Shuster

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growth for good control. Unfortunately, a perennial weed sometimes can have considerable top growth and yet have such a tremendous volume of underground structures that it is impossible for the shoots to intercept enough herbicide to kill the entire

Rainfall Probability. Rainfall soon after application can wash herbicides from the leaf surface. Retention times of 6 to 24 hr frequently are needed to prevent loss of water soluble herbicides from wash off with heavy rain. Retention times for oil soluble herbicides that penetrate rapidly are considerably shorter, possibly as little as I hr. Although the required time of retention varies with individual herbicides and environmental conditions, it is wasteful and ultimately disappointing to apply a herbicide to foliage if rainfall is expected before there is adequate time for penetration.

Cuticular Penetration. Even though a herbicide may be evenly distributed over the plant surface, it still must move past the nonliving cuticle into the living tissues of the plant.

Oil soluble herbicides readily penetrate the cuticle. They can dissolve into and through the cuticle and move rapidly into the plant. Water soluble herbicides do not penetrate readily and require the addition of a welling agent for adequate penetration. Welling agents appear to work on two principles. First, they permit the solution to spread and cover the plant surface. This action increases the chances that the herbicide will come in contact with hydrophilic sites already on the leaf surface that permit the passage of water soluble materials through the cuticle. Some of these sites include the strands of pectin that may extend through the cuticle, thin areas in the cuticle, and tears or breaks in the cuticle caused by wind, rain, insects, and other agents.

The second effect of wetting agents may be to solubilize or dissolve the cuticle. Studies have shown that herbicide penetration is enhanced by increasing the concentration of wetting agent to a level much higher than that actually necessary just to wet the loaf surface. Although this evidence is indirect, it suggests that addition of wetting agents may allow some of the water soluble herbicide to move into and through the cuticle itself.

Whatever the route, the end result is that wetting agents permit water soluble herbicides to get through the cuticle. An excellent demonstration of this result was reported by Freed and Montgomery (1958). When an aminotriazole-water solution with wetting agent was sprayed on a plant, 75% of the herbicide was absorbed 24 hr after application. In contrast, only 13% of the herbicide was absorbed by the plant when the wetting agent was deleted from the spray solution.

Penetration of a water soluble herbicide is more likely to be affected by environmental conditions than is the penetration of an oil soluble herbicide. Any condition that causes the cuticle to become hydrated (take on water) greatly enhances the ability of a water soluble, material to penetrate. Such conditions include high humidity, warm temperatures, and adequate soil moisture. In one study, for example, leaf absorption of acifluorfen into crotalaria was three to four times greater at 100% relative humidity than at 40% relative humidity (Wills and McWhorter 1981). In another study involving johnsongrass, absorption of glyphosate increased when air temperature was increased from 76 to 95 °F and when soil moisture was increased from 12% (near the wilting point) to 20% (field capacity) (McWhorter et al. 1980).

Environmental conditions also affect the amount of cuticle produced by a plant. Plants growing under conditions of low light, high humidity, and adequate soil moisture develop thinner cuticles that can be more easily penetrated than do plants growing underconditions of high light, low humidity, and dry soil.

Conditions that favor stomatal opening (e.g., slight air movement and good soil moisture) may increase herbicide penetration through that route, whereas conditions that cause the stomates to close (e.g., moisture stress) may decrease herbicide penetration. Stomatal opening, however, generally is considered to be of minor importance in the penetration of water soluble herbicides when compared to cuticle hydration (Buckovac 1976).

In general, maximum kill of plants treated with a foliar applied herbicide will be obtained under warm, humid conditions and adequate soil moisture. Minimum kill can be expected when plants experience water stress, cool temperatures, and low humidity. These important factors often are difficult to pinpoint at the time of treatment, yet they account for much of the inconsistency in the performance of foliar applied herbicides.

Herbicide Movement

Once a herbicide has entered the plant (whether soil or foliar applied), it must reach a specific susceptible site. In some cases, little herbicide movement is required to kill the plant; in others, the herbicide must move throughout the plant, particularly to the underground portions. The three major groups of herbicides according to kind of movement are (I) herbicides that show limited or no movement in the plant (called contact herbicides when applied to foliage), (2) apoplastically (xylem) only translocated

herbicides, and (3) symplastically (phloem) translocated herbicides (which also move apoplastically).

Contact or Limited Movement Herbicides

Foliar applied herbicides in this class often kill the tissue they encounter immediately after penetration (Figure 4.9A). These herbicides cause burning and necrosis of leaf and stem tissues, often within hours after application. Complete coverage of the plant surface is required for shoot kill. Application of a contact herbicide usually is sufficient for providing control of annual plants but not of biennials or perennials. Examples of contact herbicides include paraquat, acifluorfen, bentazon, dinoseb, and herbicidal oils.

Some soil applied herbicides also show limited movement in plants. They are most effective when used on seedling plants prior to or at emergence from the soil. There are relatively few barriers to penetration, and the herbicide does not have to move far into the plant to cause damage. Triffuralin, for example, only has to move into a few cell layers of the root tip to disrupt cell division and cause root growth inhibition. Many of the compounds in this category, such as the dinitroanilines and substituted amides, appear to be inhibitors or disruptors of cell division or the enlargement of seedling roots and shoots.

Apoplastically Translocated Herbicides

These compounds move in the apoplast, the system of the plant that conducts water and nutrients. Classic examples of apoplastically translocated compounds are the triazine, uracil, and substituted urea herbicides.

When soil applied, apoplastically translocated herbicides are taken up by the roots and move into leaves that are actively transpiring. Older leaves are affected first.

When foliar applied, these compounds cannot move downward, since the flow of water and nutrients in the apoplast is into rather than away from the leaves. Apoplastic herbicides applied to the base of a leaf move to the tip (Figure 4.9B). Those compounds that are active when foliar applied often work in much the same way as contact herbicides by providing burndown of the shoot tissue. Some internal movement can occur, however, so surface distribution and wetting may not need to be as thorough as with a contact herbicide.

Symplastically Translocated Herbicides

These compounds move in the symplast with the sugars. When applied to the foliage and at the right stage in the life cycle, compounds such as glyphosate, dalapon, 2.4-D, and amitrole become distributed throughout the plant because they move to points of active growth or food storage accumulation (Figure 4.9C). Although immediate effects such as contact burn and twisting can occur, the chronic symptoms at low dosages appear on the new growth (shoot tips, young leaves, buds, etc.). These compounds also can be transported in the apoplast, thus increasing the degree of distribution.

When applied to the soil, some symplastically translocated herbicides flow through the cells of the root to the stele, where they can move into both the symplast and apoplast. Herbicides like picloram are extremely effective in controlling perennial weeds because they enter the plant through both

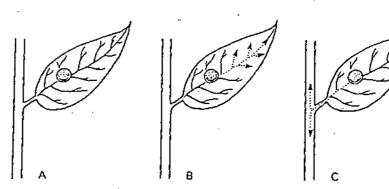


Figure 4.9. When applied to a portion of a leaf, contact herbicides (A) do not move from the point of application. Apoplastically translocated herbicides (B) move to the edges of the leaf, whereas symplas-

tically translocated herbicides (C) move back into the stem to points of active growth (meristematic regions) or food storage (underground structures).

1R-4 Study 06:377 Page 30 foliage and roots and can "circulate" in the plant through both transport systems. Other compounds such as 2,4-D remain in the symplast upon entry into root tissue. They become incorporated into cortex cells where they disrupt growth or become inactivated. Some of the compound may move into the phloem, but since phloem movement tends to be downward, distribution of these compounds to the whole plant seldom is optimal when they are applied to the soil.

Symplastically translocated herbicides are used for controlling annual, biennial, and perennial weeds. In fact, these compounds must be used if the major objective of a foliar treatment is to kill all parts of the plant, including the underground portions (e.g., in perennial plants).

Factors that affect the translocation of symplastic herbicides include stage of plant growth, herbicide distribution on the plant, presence of living tissue, and environmental conditions.

Stage of Plant Growth. The amount of sugar translocation to various parts of the plant changes during the life cycle of the plant and influences the movement of herbicides. For this reason, herbicides for perennial weeds are applied at specific stages of growth. In general, plants are most susceptible to symplastic herbicides when young or when undergoing periods of rapid growth, reproductive structure development, or food accumulation in storage structures. Timing of herbicide application in relation to life cycle is described in more detail in Chapter 11.

Distribution Pattern. Complete plant coverage with symplastic herbicides is not required; however, it is essential that the herbicide come in contact with and be adequately retained by structures that are actively photosynthesizing and exporting sugars (Figure 4.10). Young leaves (one-fourth or less expanded) and old senescing leaves do not export sugars and therefore do not transport herbicides well. In the case of young expanding leaves, sugars actually must be imported to sustain growth until the leaf achieves full photosynthetic capability.

Placement also determines the direction of herbicide movement (Figure 4.10). The application of a symplastic herbicide to photosynthesizing and sugar exporting lower leaves results in its movement downward with the sugars to underground structures. Application to fully functioning upper leaves sends the herbicides to the developing shoot tip.

Living Tissue. Conduction of sugars and herbicides through the symplast is dependent on a living, functioning plant. Movement of a symplastic herbicide to the underground portions of a plant can take several hours to a few days (depending on the plant and the herbicide), so immediate foliage kill and death of the symplast almost always result in poor herbicide translocation and unsatisfactory control of the underground plant parts. Best results frequently are obtained by applying several low doses of a herbicide that can move underground rather than a single large dose that kills the plant too rapidly. Multiple applications also provide time for dormant buds to initiate growth after the initial application and to become susceptible to the second application.

Another reason why it is essential to have living tissue is to insure loading of herbicide into the symplast. For example, living cells that are actively loading sucrose into the phloem maintain a differential pH gradient across the sieve tube member: approximately pH 5 in the cell walls and pH 8 in the cytoplasm. This is important because, in general, only herbicides with ionizable (mostly carboxyl) groups that can exist in neutral or anionic forms can move successfully into the symplast (Jacob and Nuemann 1983). In the low pH cell walls, these herbicides exist in the neutral uncharged form (Figure 4.11). Because the overall characteristic of the molecule is nonpolar, it will readily penetrate the plasma membrane of the sieve tube member. The high pH within the sieve tube causes the compound to be converted to the anionic form. This form cannot penetrate the plasma membrane, so the herbicide becomes trapped in the sieve tube member and must move with the sugars to the sink area.

Environmental Conditions. Since movement of symplastically translocated herbicides is associated with sugar production, environmental conditions favoring photosynthesis optimize herbicide movement. These conditions include high light, adequate soil moisture, and moderately warm temperatures.

Mode of Action

The way in which a herbicide affects a plant is called its mode of action, The activity of the herbicide is directed at specific cellular and molecular sites and processes. In some cases the site or process is known; in others, although the effect on the plant is known, the actual cause for that effect at the cellular and molecular level has not yet been determined. The majority of herbicides can be grouped into seven general categories based on their cellular modes of action or their effects on plants.

this way, chemicals with limited selectivity can be used in a number of cropping situations to control weeds that cannot be controlled effectively or safely using other means. Examples include the use of 2,4-DB, linuron, or paraquat as directed sprays in soybeans; the use of glyphosate with a recirculating sprayer or rope wick applicator in soybeans and cotton; and the use of a number of foliar applied herbicides as directed sprays to control herbaceous weeds in established woody species.

Differential Retention

Variations in plant shape, leaf position, and leaf surface characteristics can account for differences in foliar retention. Plants with broad, horizontally oriented leaves are more likely to intercept and retain spray than are plants such as grasses and sedges, which have vertically oriented leaves. Cattails and onions have upright waxy leaves that are difficult to wet. In fact, the selective removal of broadleaves from onions with solutions of sulfuric acid has been attributed largely to differential wetting.

Differential Penetration

Differential penetration probably is most important as a selectivity factor among plants of different ages, since cuticle thickness increases as a plant matures. This change probably is one of the major reasons why seedling plants are much more susceptible to herbicides than mature plants are. There are few documented instances in which differential penetration alone has been the cause of selectivity among herbaceous species at the same stage of growth. One exception appears to be that of the contact herbicide nitrofen, which is used for weed control in cabbage. Nitrofen injures cultivars of cabbage with thin cuticles but not those with thick cuticles (Pereira et al. 1971). Protection is attributed to the lack of herbicide penetration through the thicker cuticles.

The addition of wetting agents or alterations in herbicide formulation can decrease both retention related and penetration related selectivity by increasing the amount of herbicide that enters the plant. Such changes in formulation often are the cause of injury among crops that normally show a high degree of inherent tolerance to a particular herbicide. The entry of massive amounts of the chemical may be more than the plant can effectively and rapidly detoxify. For example, the addition of crop oil to 2,4-D amine can result in injury to corn, although 2,4-D amine alone would be nontoxic. Ester formulations of 2,4-D penetrate plant tissue more readily than amine and

other salt formulations and therefore are recommended at lower dosages than amines in order to be used safely for broadleaved weed control in comand small grains.

Differential retention and differential uptake seldom are major selectivity factors among soil applied herbicides. As long as the herbicide is present in the root zone and in the soil water solution, it will be taken up by the plant.

Differential Translocation

Upon entry, herbicides may be conjugated, adsorbed, or compartmentalized in portions of the cell where no damage can occur (e.g., vacuole). When this happens, the herbicide is no longer available for transport to the site of action. Examples in which binding or inactivation at or near the point of entry protects certain plants include chloramben in the roots of pumpkins and linuron in parsnip and carrots. These cases are exceptions, however. Most translocatable materials do move to sensitive cellular sites in quantities large enough to cause plant injury. Unless accompanied by differential metabolism, selectivity seldom is obtained by differential translocation alone.

Differential Metabolism

Alteration of the herbicide within the plant is one of the major reasons for selectivity among species. Certain herbicides are much more rapidly degraded or metabolized by resistant species. In most cases, the alteration is catalyzed by specific enzymes in the plant. This alteration can occur in a number of ways, depending on the herbicide and the plant. Some examples (Figure 4.18) include:

Decarboxylation: removal of COOH groups from the herbicide; part of the degradation sequence for many phenoxy, benzoic acid, and substituted urea herbicides.

Hydroxylation: the addition of an OH group to the molecule, often accompanied by the removal or shifting of another atom such as chlorine; common among the phenoxy, benzoic acid, and triazine herbicides.

Hydrolysis: the splitting of a molecule through the addition of water; involved in the degradation of carbamate, thiocarbamate, and substituted urea herbicides.

Dealkylation: the removal of alkyl side chains from the molecule; examples include the triazine, substituted urea, carbamate, thiocarbamate, and dinitroaniline herbicides.

CHAPTER 8

Primarily Foliar Applied Herbicide Groups

The primarily foliar applied herbicide groups are divided into four categories based on plant response, selectivity, and translocation pattern:

Symplastically translocated, auxin type growth regulators: phenoxies, benzoic acids, naptalam, and picolinic acid herbicides.

Other symplastically translocated herbicides: chlorinated aliphatics, amitrole, organic arsenicals, glyphosate, and the selective postemergence grass herbicides (the aryl-oxy-phenoxies, sethoxydim, and mefluidide).

Selective contact herbicides: bentazon and difenzo-

Nonselective contact herbicides: bipyridyliums, fosamine, and petroleum oils.

SYMPLASTICALLY TRANSLOCATED, AUXIN TYPE GROWTH REGULATORS

Phenoxy Herbicides

The phenoxy herbicides are widely used for controlling broadleaved weeds in a large number of grass crops (corn, small grains, sorghum, rice, sugarcane, pasture, rangeland, and turf). They also are used for controlling woody plants in forest management and noncropland sites and for controlling aquatic weeds. The most widely used and best known of the phenoxies is 2.4-D. This compound was one of the first selective organic herbicides synthesized. It was so effective as a broadleaf killer that it virtually revolutionized crop production and gave a tremendous impetus to the pesticide industry (see Chapter 2). The other herbicides in the group have the same general properties as 2,4-D but differ somewhat in species selectivity, 2,4-DB, MCPA, and MCPB can be used safely on certain broadleaved crops.

The phenoxies are primarily foliar applied and symplastically translocated. They are effective for controlling numerous annual broadleaves and for

suppressing several perennial broadleaves such as Canada thistle and field bindweed. They can be applied to the soil, in which case they are absorbed by the roots, but symplastic plant movement in roots is limited, and the compounds generally are less effective as soil applied materials.

The most obvious effects on susceptible plants are the twisting and downward curvature (epinasty) of the stems and leaves. Although death may not occur for several weeks or even months, the initial curling of the young growth can be seen a few hours after treatment. Tissues that are undergoing active meristematic activity are particularly susceptible to injury.

Phenoxies such as 2,4-D are susceptible to microbial activity and are relatively short-lived (a few weeks) in the soil. Phenoxies with a third chloring in the ring (silvex, 2,4,5-T) are longer lived than 2,4-D but none of the phenoxies builds up in soil with continued usage.

1R-4 Study 06377

AVAILABLE FORMULATIONS

- A. Sprayable in water.
 - Available as water soluble liquids and water soluble powders.

MOVEMENT AND MODE OF ACTION IN PLANTS

Arsenicals are primarily contact herbicides with symplastic movement in certain susceptible perennial species. They are strictly foliar applied; surfactant usually is required to insure penetration. Yellowing of foliage can be observed within 7 days of treatment; any green tissue remaining at this time requires retreatment.

RESPONSE IN SOILS

Arsenate behaves like phosphate in the soil. Therefore, it is tightly bound and inactivated by soil adsorption.

SENSITIVE SPECIES

Organic arsenicals control annual and perennial grasses and some annual broadleaves.

A. Weeds controlled include barnyardgrass, chick-

weed, cocklebur, crabgrass, dallisgrass, goose-grass, johnsongrass, nutsedge, pigweed, puncturevine, and sandbur.

MAJOR USES

The sodium salts (DSMA and MSMA) are more selective than the other organic arsenicals. DSMA is somewhat less phytotoxic than MSMA. Major uses of this group of compounds are as follows:

| | D5MA | MSMA | AMA | Cacodylic acid |
|----------------------------------|------|------|-----|-------------------|
| Cotton Established | | Х | | |
| turf (primarily for crabgrass | | | | |
| control) | . X | · X | Х | |
| (directed) | . X | Х | | Χ |
| Noncropland | | X | | X |

SPECIAL PROBLEMS

Potential exists for the persistence of elemental arsenic in soils. Inorganic arsenicals are highly toxic to mammals.

Glyphosate

Glyphosate was developed by the Monsanto Company in 1972. Since that time it has gained wide acceptance as a nonselective but extremely effective foliar applied herbicide for controlling most annual weeds and a large number of herbaceous and woody perennials. Glyphosate has been a major postemergence herbicide for controlling johnsongrass and other perennial grasses in recent years. It translocates

symplastically and causes death at low rates. Glyphosate has been particularly effective for use in recirculating sprayer treatments of tall weeds in shorter crops. Glyphosate has no significant soil activity.

The mode of action of glyphosate is not well understood. Although the compound appears to inhibit amino acid and protein synthesis, it probably has several sites of action.

Glyphosate

TRADE NAMES AND MANUFACTURER

Roundup, Rodeo----Monsanto Company

CHEMISTRY

N-(phosphonomethyl)glycine

AVAILABLE FORMULATIONS

A. Sprayable in water.

- . 1. 4 lb/gal water soluble liquid formulation of the isopropylamine salt of glyphosate (3 lb/gal acid equivalent); formulation includes surfactant (Roundup).
- . 2. 5.4 lb/gal water soluble liquid formulation of the isopropylamine salt of glyphosate (4 lb/gal acid equivalent); formulation contains no surfactant (Rodeo).

MOVEMENT AND MODE OF ACTION IN PLANTS

Glyphosate distributes well through plants by symplastic translocation. It is effective only when applied to foliage and is relatively nonselective. Translocation to underground structures of perennial species prevents regrowth from these sites and results in their destruction. Symptoms on the shoots include yellowing and wilting, which progresses from the new to the older tissues. Some deformation of new growth can occur. Visible effects occur on annual plants in 2 to 4 days and on perennial species in 7 to 10 days. Rainfall occurring within 6 hr of treatment can reduce the effectiveness of the treatment.

RESPONSE IN SOILS

Glyphosate rapidly reacts with and is inactivated by most soils. Therefore, crops usually can be seeded directly into treated areas. Some injury, however, may occur to transplants when they are placed in treated soil immediately after application. Leaching is minimal. Glyphosate is degraded in the soil by microbes and has a half-life of less than 60 days.

SENSITIVE SPECIES

Glyphosate controls many annual and perennial

weeds. It effectively kills foliage and underground structures.

- A. Annual weeds controlled include downy brome, common cocklebur, crabgrasses, fleabane, foxtails, kochia, common lambsquarters, prickly lettuce, mustards, panicums, pigweeds, ragweeds, sandbur, shattercane, smartweeds, Russian thistle, velvetleaf, volunteer corn, and volunteer wheat.
- B. Herbaceous perennials controlled include Jerusalem artichoke, bahiagrass, bermudagrass, field bindweed, annual bluegrass, brackenfern, Reed's canarygrass, cattail, dandelion, curly dock, hempdogbane, Carolina horsenettle, johnsongrass, wirestem muhly, purple and yellow nutsedges, orchardgrass, quackgrass, Canada thistle, and torpedograss.
- C. Woody species controlled include alders, berries (Rubus' sp.), elderberry, honeysuckle, kudzu, maples, oaks, multiflora rose, poison ivy, poison oak, trumpet creeper, and willows.

MAJOR USES

Glyphosate is not selective on most crop plants. Selectivity can be obtained by application prior to crop emergence or by selective placement.

A. Crop uses.

- Control of established weeds prior to planting. With creeping perennial weeds, application should be made when adequate top growth is present prior to any tillage operation.
 - a. For annual crops, including beans, beets, broccoli, cabbage, com, cotton, lettuce, oats, onions, peanuts, peas, potatoes, rice, sorghum, soybeans, spinach, sugarcane, and wheat.
 - b. In minimum tillage systems for corn and soybeans.
 - c. For perennial crops, including cranbernes, forage grasses, forage legumes, and turfgrasses (including turf seed field preparation).
 - d. For fruit trees (many citrus, nut, pome, stone, and tropical species) and grapes.
 - e. For omamental and silvicultural species, including spruce, Christmas trees, firs, arborvitae, azalea, boxwood, crabapple, euonymus, hollies, lilac, magnolia, oak, privet, and yew.



- 2. Control of weeds by selective placement.
 - a. Recirculating sprayer or wipe-on devices for soybeans and cotton.
 - Spot treatments in all crops listed above except edible beans.
 - c. Directed treatments in asparagus and under some established perennial crops listed above (fruit crops, woody ornamentals), providing no spray contacts green tissue on the crop.
- B. Noncrop uses.
 - 1. Roundup is labeled for use in areas such as air-

- ports, ditchbanks, dry ditches and canals, fence rows, highways, industrial sites, railroads, and storage areas.
- Rodeo is labeled for many of the same annual, perennial, and woody weed species as
 Roundup. It also is labeled for controlling
 cattails, common reed, spatterdock, and other
 emergent weeds in aquatic sites. Surfactant
 must be added to spray solution.

Selective Postemergence Grass Herbicides (Aryl-oxy-phenoxy Herbicides, Sethoxydim, and Mefluidide)

New herbicide chemistries recently have been or are in the process of being developed for the selective postemergence control of grass weeds in broadleaved crops. These chemicals present a completely new alternative for controlling weeds in crops because previous postemergence grass materials such as dalapon and glyphosate have little selectivity. These new herbicides have no activity on broadleaved species or nongrass monocots, either crops or weeds. Interest in these new herbicides revolves around their potential on all broadleaved crops and their usefulness for minimum tillage systems.

The first of this new group to be marketed was diclofop-methyl (Hoelon, marketed by American Hoechst Corporation), a chemical classified as a biphenoxy (phenoxy-phenoxy) herbicide. Others are pyridinyl-oxy-phenoxies and quinoxalinyl-oxyphenoxies and include fluazifop-butyl (sold as Fusilade by ICI Americas) and compounds such as haloxyfop-methyl (Dow Chemical) and DPX Y6202 (E. I. du Pont de Nemours & Co.) that are still (1984) in the development stage. Collectively, these herbicides are classified as aryl-oxy-phenoxy herbicides. Another compound of completely different chemistry but essentially the same activity is sethoxydim. This compound currently is being sold in the United States under the trade name Poast (BASF Wyandotte). See Figure 8.1 for the chemistries of these compounds.

Diclosop-methyl is effective only for controlling annual grasses and should be applied when grasses are in the one- to four-leaf stage. It exhibits tolerance on certain grasses and currently is labeled for use in wheat and barley as well as soybeans. It provides excellent control of wild out in the two grass crops.

Diclosop-methyl exhibits little to no translocation. It inhibits shoot growth, with dieback occurring I to 3 wk after application.

The other compounds listed above are effective on annual grasses and certain perennial grasses such as johnsongrass. These compounds are absorbed rapidly by plant tissue and move in the symplast to growing points (including those of underground perennial structures), where they inhibit meristematic activity. The first effect on the shoot is death of the growing point and the inner whorl of leaves. The outermost leaves may appear healthy for several days but they eventually wither and die. Maximum control is observed 10 to 21 days after treatment. Optimal results are obtained when weeds are 2 to 6 in. tall, but effective control has been obtained on weeds as tall as 18 in. Rhizome johnsongrass can be controlled effectively up to 24 in. Good coverage of the shoot tissue is required for effective control of taller weeds.

All of these compounds, including diclofopmethyl, have soil activity, but higher rates are required to provide the same control as that obtained with postemergence treatments. Although the soil life of these compounds is not long (the half-life of sethoxydim varies from 2 to 13 days, depending on environmental conditions), the soil residual could be helpful in controlling late germinating grass seeds.

These compounds currently are being investigated in tank mixes with postemergence broadleaved herbicides such as bentazon and acifluorfen for broad spectrum weed control in soybeans, however, the antagonism being observed probably will limit this use (Table 4.1).

Another compound labeled for postemergence grass control in soybeans is mefluidide, marketed as

AM 20 1997

Mr. Stephen J. Wratten Monsnato Company 700 14th Street, NW Suite #1100 Washington, DC 20005

Dear Mr. Wratten:

Subject: Roundup Ultra Herbicide (Pasture Grasses In Hawaii) EPA Registration No. 524-475 Your Application Dated May 5, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

FOR USE IN PASTURES FOR HAWAII ONLY

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS. DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product may be used in Hawaiian pastures, including kikuya grass, pangola grass and guineagrass pastures. Spot treatment, wiper application, preplant, preemergence and pasture renovation applications may be made.

AUG 26 1997

Under the Federal Insecticide, Fungicide, and Redenticide Act, as amended, for the posticide registered under EFA Reg. No. XV 84-47

Spot treatment

This product may be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals. For spot treatment and wiper applications, apply in areas where the movement of domestic livestock can be controlled. No more than one-tenth of any acre should be treated at one time. Remove domestic livestock before application and wait 14 days after application before grazing livestock or harvesting.

Preplant, preemergence and pasture renovation

When applied prior to planting or emergence of forage grasses or as a direct application to the listed perennial pasture species, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

See the Weed Control Tables in the label booklet for Roundup Ultra for information about rates and timings for specific weeds.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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| | d States | | <u> </u> | Registration Amendme | | OPP Identifiar Number |
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| Ap | plication for | Pesticide - Sec | ction I | | · <u> </u> | |
| 1. Company/Product Number Monsanto 524-475 | | 2. EPA Product Ma Mr. James | _ | ns | | oosed Classification |
| 4. Company/Product (Name) Roundup® Ultra Herbicide | | РМ# 25 | | | | None Restricted |
| 5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite Washington, DC 20005 Check if this is a new address | 11 0 0 | | t is simila | ar or identical | l in com | FIFRA Section 3(c)(3) inposition and labeling |
| | Sec | tion - II | | | | - |
| Amendment - Explain below. Resubmission in response to Agency latter dat Notification - Explain below. Explanation: Use additional page(s) if necessary. (| | Agency le "Me Too" Other - Ex | tter dated Applicati | ion. | | |
| Submission of Roundup Ultra Pasture Grasses | • | | bel fo | r Hawaiia | n | |
| | Sec | tion - III | | | | |
| Material This Product Will Be Packaged In: | | | | _ | | |
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| 3. Location of Net Contents Information 4. | Size(s) Retail Contai | ner | 5. Loca | on of Label D On Label On Labeling | | s anying product |
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| | Sect | tion - IV | | - | · | |
| 1. Contact Point (Complete items directly below for it | dentification of indiv | idual to be contacted | f, if naces | sary, to proce | ss this a | pplication.) |
| Name Dr. Russell P. Schneider | | gricultural Re irector | egulat | | • | Eo. (In⊐fude Area Code) S3-2460 |
| I certify that the statements I have made on this I acknowledge that any knowingly false or misle both under spolicable law. | | | | • | 1 | S. Date Application Received (Stamped) |
| 2. Signature Lepwillians | 3. Title Maina | ager, Registra | ation | | | 104 |
| 4 Typed Name / | 5. Date M | ay 5, 1997 | · | · | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Date (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)]:
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

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Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

3. Subject of submission. Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purposets) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable remendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types, indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Localize of Net Contents Indicate the location of the net contents information for your product.
- 4. Sizple) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.

. Agree 1 version 1

6. Menner in which label is affixed to product - Indicated the method product label is attached to retail container.

SECTION IV (Cuntact Foint) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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20 September within a to early

Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 5, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

cc:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Supplemental Label for Hawaiian Pasture Grasses

Dear Mr. Tompkins:

Monsanto herein submits A Supplemental label for the Agency's approval to specify appropriate pasture grasses for use in Hawaii.

The proposal is based a request from Mr. Lance Kobashigawa, Hawaiian Dept. of Agriculture, Pesticides Branch (attached). Mr. Kobashigawa notes that the grass species listed on the Roundup Ultra Herbicide label are inappropriate for Hawaiian users. He provided a more appropriate list of names which Monsanto has included in the proposed label.

Tolerances are presently established for the crop group "Grasses, forage" and for the livestock commodities in which potential residues could occur following livestock grazing, and there is no reason to believe that such a use on Hawaiian grasses would lead to residues that are higher than in other states. Therefore, Monsanto proposes to accommodate the Hawaiian need through the use of the enclosed Supplemental Label.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

Mr. Lance Kobashigawa

R. P. Schneider

76

facsimile

To:

Sheila Schuette, Ph.D.

Company:

Monsanto

Fax #:

(314) 694-4028

Re:

Use of Roundup Ultra in Pastures

Date:

March 20, 1997

Pages:

1 page(s) total, including this cover sheet

Hi Sheila,

While reviewing the Roundup Ultra (EPA Reg. No. 524-475) label for pasture uses we noticed that it lists specific types of pastures (i.e., Bahiagrass, bermudagrass, bluegrass, etc.). We interpret this to mean that the Ultra can only be used in pastures composed of those specific types of grasses. If this is true, why are only those grasses listed? The pastures in Hawaii are not composed of those types, but rather types such as Kikuya grass, pangola grass, and guineagrass.

What do we have to do to get the Hawaii pastures grass types added to the label? Can Monsanto simply put out a supplemental label for use in Hawaii?

Any assistance you can provide would be greatly appreciated. Thank You.

Canee

From the desk of...

Lance K. Kobashigawa Registration Specialist Hawaii Department of Agriculture - Pesticides Branch 1481 S. King Street, Suite

431 Honolulu, HI 96814

(808) 973-948 Fax: (808) 973-9418 MIR 26 1997

Dr. Steve J. Wratten
Monsanto Company
700 14th Street, NW Suite 1100
Washington, DC 20005

Dear Dr. Wratten:

Subject: MON 65005 Herbicide (Brand Name and Label For Forestry) EPA Registration No. 524-475 Your Letter Dated April 23, 1997

The brand name "MON 65005 Forestry Herbicide" has been added to the record for this product.

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you submit or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

April 23, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

MON 65005 Herbicide (EPA Reg. No. 524-475)

Notification of an Additional Brand Name: MON 65005 Forestry

Herbicide

Submission of a New Label Booklet for Forestry Uses

Dear Sir:

Monsanto is notifying the Agency of a new brand name for MON 65005 herbicide (EPA Reg. No. 524-475). The new brand name is MON 65005 Forestry Herbicide. Monsanto is also submitting a new label booklet for this product, which contains the same forestry uses that have been previously approved for Accord® Herbicide (EPA Reg. No. 524-326).

Five (5) copies of the label booklet are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

ula a peluette

(314) 694-7248

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cc: R.P. Schneider B.J. Carey D.M. Fee-White S.R. Wratten

| ŞEPA | United States Environmental Protection Washington, DC 2046 | | Registra X Amenda Other | | OPP Identifier Number | |
|--|---|--|---|---|---|--|
| | Application | n for Pesticide - Sec | ction I | | | |
| 1. Company/Product N | umber 524-475 | 2. EPA Product Ma Philip V. | - | 3. Pro | posed Classification | |
| 4. Company/Product (I | MON 65005 Herbicide | PM# - 25 | | | | |
| Monsantı 700 14tl Washing | of Applicant (Include ZIP Code) of Company of Street, N.W., Suite 1100 ton, DC 20005 if this is a new address | (b)(i), my product to: | is similar or identi | cal in cor | FIFRA Section 3(c)(3) nposition and labeling | |
| | | Section - II | | | | |
| X Notification - Explanation: Use a | response to Agency letter dated | and Section II.) | tter dated Application. plain below- | :Tue | | |
| | | Section - III | | | | |
| 1. Material This Produc | et Will Be Packaged In: | | | | | |
| Child-Resistant Peckag Yes* No Certification must be submitted | Yes No | Water Soluble Packaging Yes No No If "Yes" Package wgt Contain | | Container Metal Plastic Glass Paper Other (S | pecify) | |
| 3. Location of Net Con | cents Information 4. Size(s) Retail | Container | 5. Location of Lab On Label On Labeli | | ns panying product | |
| 6. Manner in Which Le | pel is Affixed to Product Lithogra Paper g | ph Cth ued d | er | | | |
| ···· | | Section - IV | | | | |
| *************************************** | plete items directly below for identification | of individual to be contacted | , if necessary, to pro | cess this | application.) | |
| Dr. Russe | 11 P. Schneider | No Agricultural F | Regulation | | No. (Include Area Code) 783-2460 | |
| | Certificati statements I have made on this form and a at any knowingly false or misleading stater | ll attachments thereto are tr | | | 6. Date Application - Received (Stamped) | |

3. Title

5. Date

Manager, Regulatory Affairs

april 23, 1997

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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- 3. Formulator's Exemption Statement (EPA Form 8570-27);
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- 5. Three copies of any data submitted;
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Block A - Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager, ...
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration; or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

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Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Peckaging Check the appropriate block if your product will be packaged in the indicated packaging types, indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Nat Contents Indicate the location of the nat contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions A. a., new products registration resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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Applicants Name and Address

Monsanto Company

Washington, DC 20005

United States Environmental Protection Agency Washington, DC 20460

Farm Approved OMB No. 2070-0060 Approval Expires 11-30-93

SEPA Certification with Respect to Citation of Data

| EPA File Symbol/Registration Number |
|-------------------------------------|
| 524-475 |
| Product Name MON 65005 Herbicide |
| Date of Application April 23, 1997 |

NOTE: If your product is a 100% repackaging of another EPA-registered product that you purchase, and is labeled for the same uses, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

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- 1. This application is supported by all data submitted or cited in the application. In addition, if cite-all options are indicated, this application is supported by all data in the Agency's files that concern the properties or effects of this product that is identical or substantially similar, and that is one of the types of data that would be required to be submitted if this application sought the initial registration of a product of identical or similar composition and intended uses under the data requirements in effect on the date of approprial of this application. (Check the appropriate boxes, in items 2 and 3 below, that pertain to your application.)
- 2. I certify that, for each study cited in support of this application for registration that is an exclusive use study.
 - I am the original submitter*; or

700 14th Street, N.W., Suite 1100

- I have obtained the written permission of the original data submitter to cite that study.
- 3. I certify that, for each study cited in support of this application for registration that is not an exclusive use study:
 - a. | XX I am the original data submitter*; or
 - I have obtained the written permission of the original data submitter to cite that study*; or
 - b. | | I have notified in writing the companies that have submitted data I have cited to support this application and have offered to: (a) Pay compensation for those data in accordance with section 3(c)(1)(D) and 3(c)(2)(D) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); and (b) Commence negotiations to determine which data are subject to the compensation requirement of FIFRA and the amount and terms of compensation due, if any. The companies I have notified are: (Check one)
 - All companies listed on the Pesticide Data Submitters List for all active ingredients contained in my product (cite-all method or cite-all option under Selective Method*). (Also, sign the General Offer Statement below.)
 - | | Those companies that have submitted the studies which I have cited (Selective method*).
 - * A Data Matrix identifying these studies is attached. (Note: a Data Matrix is not required under the cite-all method.)

| Signature | Name and Title | Date |
|--------------------------------------|--|----------------|
| Shula a. Sebulte | Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs | april 23, 1997 |
| General Offer to persons, with regar | Pay: I hereby offer and agree to pay compensation to the approval of this application, to the exte | rion to other |
| Signature | Name and Title | |

EPA Form 8570-29 (Rev-7-91)

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MON 65005 Forestry Herbicide

by Monsanto

Complete Directions for Use

EPA Reg. No. 524-475

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NONWOODY ROOTS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION WILL RESULT.

1997

Read the entire label before using this product.

Use only according to label instructions.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read ''LIMIT OF WARRANTY AND LIABILITY'' before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION OR REPACKAGING IS PROHIBITED.

Ingredients

ACTIVE INGREDIENT:

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine

PROfrsty.doc/04/20/97

ACCEPTED

AUG 26 1997

Under the Federal Insecticide.

Under the Federal Insecticies.
Fungicide, and Rodentialdo Act.
as amanded, for the posticide
registreed under
EPA Reg. Ro. 524-475

183

salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

FIRST AID: IF IN EYES, flush with plenty of water. Get medical attention if irritation persists.

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)

(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then
 wash thoroughly and put on clean clothing.

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied only in stainless steel, aluminum, fiberglass, plastic and plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about Personal Protective Equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: coveralls, waterproof gloves, shoes plus socks.

For more product information, call toll free 1-800-332-3111.

Storage and Disposal

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

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DISPOSAL: Wastes of this pesticide may cause eye and skin irritation and may be dangerous. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. If these wastes cannot be disposed of according to label use instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

REUSE: Do not reuse this container. Triple rinse container, then puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

GENERAL INFORMATION

This product, a water soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of most herbaceous and woody plants.

This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most herbaceous weeds occur within 7 days but on most woody plants may not occur for 30 days or more.

After any site disturbance, such as logging, mechanical brush removal or mowing, allow stump sprouts, resprouts and foliar regrowth from woody brush and perennial herbaceous weeds sufficient time to regrow before treatment.

Always use the higher recommended rates of this product when treating dense, multicanopied sites of woody vegetation or difficult-to-control woody and herbaceous plants.

Reduced control may result when woody brush, trees and herbaceous weeds are treated under poor growing conditions caused by drought, disease or insect damage. Reduced control may result if the foliage of undesirable vegetation is covered with dust at the time of treatment.

Heavy rainfall soon after application may wash this product off the foliage and a repeat application may be required for adequate control.

This product has no herbicidal or residual activity in the soil. Weed must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide.

When this product comes in contact with the soil it is bound to soil particles. When used in accordance with label directions, once this product is bound it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this label. Mixing this product with herbicides or other materials not recommended in this label may result in reduced performance.

FORESTRY SITE PREPARATION

This product is recommended for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product is also recommended for use in preparing or establishing wildlife openings within these sites and maintaining logging roads.

This product is recommended for use in site preparation prior to planting any tree species, including Christmas trees and silvicultural nursery sites.

APPLICATION RATES AND TIMING

| | | · SPRAY |
|-------------------|----------------------------|--------------------|
| | | VOLUME |
| APPLICATION | MON 65005 | GAL/A |
| BROADCAST | · | |
| Aerial | 2 to 10 qts/a | 5 to 30 |
| Ground | 2 to 10 qts/a | 10 to 60 |
| SPRAY-TO-WET | | |
| Handgun, | 3/4 % to 2 % · | spray-to-wet |
| Backpack, | by volume . | |
| Mistblower | | • |
| LOW VOLUME DIRECT | ED SPRAY | |
| Handgun, | 5% to 10% by volume | partial coverage* |
| Backpack, | , | |
| Mistblower | | <u></u> |
| *For low volume d | irected spray applications | coverage should be |

*For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the plant is important for best results.

Use higher rates of this product within the recommended range for control or partial control of woody brush, trees and hard-to-control perennial herbaceous weeds. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop. Increase rates within the recommended range for control of perennial herbaceous weeds any time after emergence and before seedheads, flowers or berries appear.

Use the lower rates of this product within the recommended range for control of annual herbaceous weeds and actively growing perennial herbaceous weeds after seedheads, flowers or berries appear. Apply to the foliage of actively growing annual herbaceous weeds any time after emergence.

This product has no herbicidal or residual activity in the soil. Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

TANK MIXTURES

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

NOTE: For forestry site preparation, make sure the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank mix with the following products for forestry site preparation.

| PRODUCT | DROADCAST RATE |
|---------------------------------|---------------------------------|
| Arsenal Applicators Concentrate | 2 to 16 fl oz /a |
| Escort™ | ½ to 3 ½ oz/a |
| Oust TM | 1 to 4 oz/a |
| Garlon 4 | 1 to 4 qts/a |
| | |
| PRODUCT | SPRAY-TO-WET RATES |
| Arsenal Applicators Concentrate | 1/32 % to 1/2 % by volume |
| | |
| PRODUCT | LOW VOLUME DIRECTED SPRAY RATES |
| Arsenal Applicators Concentrate | 1/8% to 1/2% by volume |
| | |

For control of herbaceous weeds, use the lower recommended tank mixture rates. For control of dense stands or tough-to-control woody brush and trees, use the higher recommended rates.

MArsenal is a trademark of American Cyanamid Company.

MOust is a trademark of E. I. du Pont de Nemours and Company.

MGarlon is a trademark of DowElanco Products Company.

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PRODUCT

BROADCAST RATE

FORESTRY CONIFER AND HARDWOOD RELEASE

DIRECTED SPRAY AND SELECTIVE EQUIPMENT

This product may be applied as a directed spray or by using selective equipment in forestry conifer and hardwood sites, including Christmas tree plantations and silvicultural nurseries.

In hardwood plantations, tank mixtures with Oust may be used. In pine plantations, tank mixtures with Garlon 4 or Arsenal AC may be used. Comply with all site restrictions, forestry species limitations and precautions on the tank mix product label.

Avoid contact of spray, drift, mist or drips with foliage, green bark or non-woody surface roots of desirable species.

See all sections in the APPLICATION EQUIPMENT AND TECHNIQUES portion of this label for specific equipment recommendations and precautions.

For spray-to-wet applications, use a 2 percent spray solution for the control of undesirable woody brush and trees. To control herbaceous weeds, use a 1 to 2 percent solution.

For low volume directed spray applications, use a 5 to 10 percent spray solution. Coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one-half of the unwanted vegetation is important.

For equipment calibrated for broadcast applications, use 2 to 10 quarts of this product per acre. Apply in 10 to 60 gallons of clean water per acre. Shielded application equipment may be used to avoid contact of the spray solution with desirable plants. Shields should be adjusted to prevent spray contact with the foliage or green bark of desirable vegetation.

Wiper application equipment may be used. See the SELECTIVE EQUIPMENT portion of this label for equipment and rate recommendations

DO NOT APPLY THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY FOR FORESTRY CONIFER OR HARDWOOD RELEASE.

MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. HANDGUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved antifoam or defoaming agent.

APPLICATION EQUIPMENT AND TECHNIQUES

ATTENTION

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this

product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of non-target injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. When not in use, keep container closed to prevent spills and contamination.

AERIAL EQUIPMENT

This product is recommended for aerial application in forestry sites by helicopter only. Use the recommended rates of this product in 5 to 30 gallons of spray solution per acre as a broadcast spray. (THIS PRODUCT PLUS OUST TANK MIXTURES MAY NOT BE APPLIED BY AIR IN CALIFORNIA.)

AVOID DRIFT: DO NOT APPLY DURING INVERSION CONDITION, WHEN WINDS ARE GUSTY, OR UNDER ANY OTHER CONDITION WHICH WILL ALLOW DRIFT; DRIFT WILL CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Avoid direct application to any body of water.

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine droplets.

Drift control additives may be used for forestry site preparation. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace

specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

GROUND BROADCAST EQUIPMENT

This product is recommended for broadcast applications using suitable ground equipment in forestry sites. Use the recommended rates of this product in 10 to 60 gallons of clean water per acre as a broadcast spray. Check for even spray distribution throughout the spray pattern.

BACKPACK, HANDGUN OR MISTBLOWER EQUIPMENT

This product is recommended for application through backpack, handgun or hand-held mistblower* equipment. For spray-to-wet applications, coverage should be uniform and complete, but not to the point of runoff.

This product can be used for low volume directed sprays for spot treatment of trees and brush. It is most effective in areas where there is a low density of undesirable trees or brush. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zigzag motion. For flat fan and cone nozzles and with mistblowers, mist the application over the foliage of the targeted vegetation. Small, open branched trees need only be treated from one side. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

*This product is not registered in California or Arizona for use in mistblowers.

SELECTIVE EQUIPMENT

This product may be applied through shielded sprayers or wiper application equipment. When properly used this equipment may

selectively control undesirable vegetation without harming desirable vegetation.

Shielded sprayers direct the herbicide solution onto weeds while shielding desirable vegetation from the spray solution. Any recommended rate or tank mixture of this product may be used employing this equipment.

Wiper applicators physically wipe product directly onto undesirable vegetation. Care should be taken to avoid wiping desirable vegetation. Use a 33 to 100 percent solution of this product, diluted in water for wiper applications. Use a 33 percent solution for wick or gravity feed systems. Higher concentrations may be used in pressurized systems that are capable of handling thicker solutions.

WEEDS CONTROLLED

When applied as recommended under the conditions described, this product CONTROLS, PARTIALLY CONTROLS or SUPPRESSES most woody brush, trees and herbaceous weeds, some of which are listed below.

WOODY BRUSH AND TREES

Alder

Alnus spp.

Ash

Fraxinus spp.

Aspen, quaking

Populus tremuloides

Bearmat (Bearclover)

Chamaebatia foliolosa

Beech

Fagus grandifolia

Birch

Betula spp.

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Blackberry

Rubus spp.

Blackgum

Nyssa spp.

Bracken

Pteridium spp.

Broom:

French

Cytisus monspessulanus

Scotch

Cytisus scoparius

Buckwheat, California

Eriogonum fasciculatum

Cascara

Rhamnus purshiana

Catsclaw

Acacia greggi

Ceanothus

Ceanothus spp.

Chamise

Adenostoma fasciculatum

Cherry:

Bitter

Prunus emarginata

Black

Prunus serotina

Pin

Prunus pensylvanica

Coyote brush

Baccharis consanguinea

Creeper, Virginia

Parthenocissus quinquefolia

Dewberry

Rubus trivialis

Dogwood

Cornus spp.

Elderberry

Sambucus spp.

Elm

Ulmus spp.

Eucalyptus, bluegum

Eucalyptus globulus

Hasardia

Haplopappus squamosus

Hawthorn

Crataegus spp.

Hazel

Corylus spp.

Hickory

Carya spp.

Holly, Florida; Brazilian Peppertree

Schinus terebinthifolius

Honeysuckle

Lonicera spp.

Hornbeam, American

Carpinus caroliniana

Kudzu

Pueraria lobata

Locust, black

Robina pseudoacacia

Madrone

Arbutus menziesii

Manzanita

Arctostaphylos spp.

Maple

Acer spp.

Monkey Flower

Mimulus guttatus

Oak

Quercus spp.

Persimmon

Diospyros spp.

Pine

Pinus spp.

Poison Ivy

Rhus radicans

Poison Oak

Rhus toxicodendron

Poplar, yellow

Liriodendron tulipfera

Prunus

Prunus spp.

Raspberry

Rubus spp.

Redbud, eastern

Cercis canadensis

Rose, multiflora

Rosa multiflora

Sage, black

Salvia mellifera

Sagebrush, California Artemisia californica

Salmonberry

Rubus spectabilis

Saltbush; Sea myrtle
Baccaharis halimifolia

Sassafras

Sassafras albidum

Sourwood

Oxydendrum arboreum

Sumac

Rhus vernix

Sweetgum

Liquidambar styraciflua

Swordfern

Polystichum munitum

Tallowtree, Chinese

Sapium sebiferum

Tan Oak

Lithocarpus densiflorus

Thimbleberry

Rubus parviflorus

Tobacco, tree

Nicotiana glauca

Trumpetcreeper

Campsis radicans

Waxmyrtle, southern

Myrica cerifera

Willow '

HERBACEOUS WEEDS

Bahiagrass

Paspalum notatum

Balsamapple

Momordica charantia

Barnyardgrass

Echinochloa crus-galli

Bassia, fivehook

Bassia hyssopifolia

Bermudagrass

Cynodon dactylon

Bindweed, field

Convolvulus arvensis

Bluegrass, Kentucky

Poa pratensis

Brackenfern

Pteridium aquilinum

Brome

Brome spp.

Bromegrass, smooth

Bromus inermis

Broomsedge

Andropogon spp.

Buttercup

Ranunculus spp.

Cheat -

Bromus secalinus

Chickweed, mouseear Cerastium vulgatum

Clover, red Trifolium pratense

Clover, white Trifolium repens

Cocklebur

Xanthium strumarium

Crabgrass
Digitaria spp.

Dallasgrass
Paspalum dilatatum

Dock, curly
Rumex crispus

Dwarfdandelion Krigia cespitosa

Falseflax, smallseed Camelina microcarpa

FescueFestuca spp.

Fiddleneck
Amsinckia spp.

Flaxleaf fleabane Conyza bonariensis

Fleabane Erigeron spp.

Foxtail
Setaria spp.

Groundsel, common

Senecio vulgaris

Guineagrass

Panicum maximum

Horsenettle

Solanum carolinese

Horseweed/Marestail

· Conyza canadenis

Johnsongrass

Sorghum halepense

Kikuyugrass

Pennisetum clandestinum

Knapweed

Centaurea repens

Kochia

Kochia scoparia

Lambsquarters, common

Chenopodium album

Lespedeza: common, sericea

Lespedeza striata Lespedeza cuneata

Lettuce, prickly

Lactuca serriola

Morningglory

Ipomoea spp.

Multly, wirestem

Muhlenbergia frondonsa

Mullein, common

Verbascum thapsus

Mustard, blue

Chorispora tenella .

Mustard, tansy Descurainia pinnata

Mustard, tumble Sisymbrium altissimum

Mustard, wild Sinapis arvensis

Napiergrass Pennisetum purpureum

Nightshade, silverleaf Solanum elaeagnifolium

Nutsedge: purple, yellow Cyperus rotundus Cyperus esculentus

Oats, wild Avena fatua

Orchardgrass Dactylis glomerata

Panicum spp.

Pampasgrass Cortaderia jubata

Pennycress, field Thlaspi arvense

Pigweed, redroot Amaranthus retroflexus

Pigweed, smooth Amaranthus hybridus

Quackgrass Agropyron repens

Ragweed, common
Ambrosia artemisiifolia

Ragweed, giant
Ambrosia trifida

Reed, giant
Arundo donax

Ryegrass, perennial Lolium perenne

Saltcedar Tamarix spp.

Sandbur, field Cenchrus spp.

Shepherdspurse Capsella bursa-pastoris

Signalgrass, broadleaf
Brachiaria platyphylla

Smartweed, Pennsylvania Polygonum pensylvanicum

Sowthistle, annual Sonchus oleraceus

Spanishneedles
Bidens bipinnata

Spurry, umbrella Holosteum umbellatum

Starthistle, yellow Centaurea solstitialis

Stinkgrass
Eragrostis cilianensis

Thistle, Canada Cirsium arvense

Thistle, Russian
Salsola kali

Vaseygrass

Paaspalum urvillei

Velvetgrass

Holcus spp.

Witchgrass

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Panicum capillare

INJECTION AND CUT STUMP APPLICATIONS

Woody brush and trees may be controlled using injection or cut stump applications of this product.

INJECTION APPLICATIONS

Apply the equivalent of 1 ml of this product per each 2 inches of trunk diameter. This is best achieved by applying a 25 to 100 percent concentration of this material either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In these species, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, avoid applications during peak sap flow in the Spring.

CUT STUMP TREATMENTS

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100 percent solution of this product to the freshly cut surface immediately after cutting. Delays in application may result in

reduced performance. For best results, avoid applications during peak sap flow in the Spring.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS most woody brush and tree species, some of which are listed below:

Alder

Alnus spp.

Coyotebrush

Baccharis consanguinea

Dogwood

Cornus spp.

Eucalyptus

Eucalyptus spp.

Hickory

Carya spp.

Madrone

Arbutus menziesii

Maple

Acer spp.

0ak

Quercus spp.

Poplar

Populus spp.

Saltcedar

Tamarisk spp.

Sweetoum

Liquidambar styraciflua

Sycamore

Platanus occidentalis

Tan Oak

Lithocarpus densiflorus

Willow

Salix spp.

LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet (''Directions'') when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions; or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER

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SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement.

Product protected by U.S. Patent No. 4,405,531. Other patents pending.

©MONSANTO COMPANY 1997 ST. LOUIS, MISSOURI 63167 U.S.A. 祖原 26 (997

Dr. Steve J. Wratten Monsanto Company 700 14th Street, NW Suite 1100 Washington, DC 20005

Dear Dr. Wratten:

Subject: Roundup Ultra Herbicide (Use on Dormant Alfalfa) EPA Registration No. 524-475 Your Letter Dated April 22, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you submit or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA RT HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra RT and this supplement.

ACCEPTED

ROUNDUP® ULTRA RT Herbicide by Monsanto

EPA Reg. No. 524-475

AUG 26 1997

Under the Federal Insecticide.
Fungicide, and Redenticide Act.
as amended, for the posticide registered under
EFA Reg. No. 624-475

ROUNDUP® ULTRA RT HERBICIDE FOR USE DORMANT ALFALFA

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product. Call Collect, day or night, 314-694-4000.

Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE. GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS. DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra RT herbicide for essential product performance information.

RECOMMENDATIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 8 to 12 ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfalfa with Roundup Ultra RT.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra RT herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

6 Monsanto Company 1996

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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Monsanto Company Sulle 1300 700 14th Street, N.W. Washington, D.C. 20005

April 22, 1996

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Robert J. Taylor

Product Manager (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Roundup® Ultra RT Herbicide (EPA Reg. No. 524-475)

Submission of Supplemental Labels for Use in Dormant Alfalfa

Dear Sir:

Monsanto is submitting supplemental labels for use of Roundup Ultra herbicide and Roundup Ultra RT herbicide (EPA Reg. No. 524-475) for use in dormant alfalfa. A similar label was previously approved by the Agency for Roundup herbicide (EPA Reg. No. 524-445) on May 26, 1993 and Monsanto now wishes to extend this use to our new products.

The following modifications are being proposed:

- Because crop injury can occur if this product is not used properly, applications will be limited to individuals who have attended a Monsanto-approved training program.
- The original label for Roundup herbicide (EPA Reg. No. 524-445) required 45 days
 after application before grazing or harvesting. However, the EPA approved the
 use of Roundup Ultra herbicide for preharvest applications to alfalfa with a 36-

Dormant Alfalfa April 22, 1996 Page 2

hour harvesting/grazing interval on March 25, 1996. Therefore, Monsanto has reduced the harvesting/grazing interval after application to dormant alfalfa to this same time period.

Five (5) copies of the proposed supplemental label for each brand name are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shula a. Schutte

(314) 694-7248

cc: R.P. Schneider S.L. Sunderland D.M. Fee-White

| | • | | | | | | | | |
|--|---|--|-------------|--|------------------------|--------------------------------|--|----------------|---------------------------------------|
| Please read instructions | a on reverse before completi | ng form. | | F | orm Appro | oved. | OMB No. 207 | <u>0-0080.</u> | Approval expires 05-31-98 |
| ≎EPA | Agend | Registration Amendme Other | | | | | | | |
| | | pplication | for Pe | sticide | - Sect | tion I | | | |
| 1. Company/Product N | umber 524-475 | | 2 | | duct Mana | - | r | 3. Pro | aposed Classification |
| | lame) Roundup® Ultr ra RT Herbicide_ | a Herbicid | e P | °M# 2 | 25 | | |] <u> ×</u> | None Restricted |
| 5. Name and Address of Monsanto Co 700 14th Si Washington | . [1] | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. | | | | | | | |
| Check | if this is a new address | | | Product | Name _ | | | | |
| - · · · · · · · · · · · · · · · · · · · | | | Section | on - II | | | | | |
| Notification - Ex | response to Agency letter o | , (For section I | | on II.) | gency latt Ma Too A | er date Applica Isin bel | tion. | | |
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| | · · · · · · · · · · · · · · · · · · · | | | n - IV | | | | | |
| 1. Contact Point (Com | plete items directly below fo | r identification o | of individu | ial to be d | ontacted, | if nece | ssary, to proc | ese this | application.) |
| Name Or. Russel | II P. Schneider | Tit | | icultu ector | ıral Re | gula | tion T | | e No. (Include Area Code) 783-2460 |
| certify that the | statements have made on | Certification | | ents there | ito are trus | a, accu | rata and comp | olata. | 6. Date Application Received |

I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or

Manager, Regulatory Affairs

agril 22, 1996.

(Stamped)

EPA Form 8570-1 (Ray R.94) Previous aditions are obsolete

4. Typed Name Sheila A. Schuette, Ph.D.

both under applicable law.

SEPA

United States Environmental Protection Agency Washington, DC 20460

Form Approved OMB No. 2070-0050 Approval Expires 11-30-93

| pptice | ints Name and Address | | EPA File Symbol/R | egistration Number | |
|--------|--|---|---|--|--|
| | Monsanto Company | | | 524-475 | |
| | 700 14th Street, N.W. Washington, DC 20005 | , Suite 1100 | | oundup® Ultra He tra RT Herbicide | |
| | | | Date of Application | April 22, 1996 | |
| | NOTE: If your product is a is labeled for the same uses, yo Exemption Statement (EPA Fo | u do not need to su | | | |
| | This application is supported options are indicated, this ap properties or effects of this of data that would be require product of identical or similar the date of apropval of this apertain to your application.) | plication is support product that is idented to be submitted r composition and | ed by all data in the A stical or substantially si if this application sough intended uses under the | gency's files that conc milar, and that is one ht the initial registration e data requirements in | ern the of the types on of a n effect on |
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Name and Title

Date

Signature

Dr. Steve J. Wratten Monsanto Company 700 14th Street, NW Suite 1100 Washington, DC 20005

Dear Dr. Wratten:

Subject: Roundup Ultra RT Herbicide (Use on Dormant Alfalfa) EPA Registration No. 524-475 Your Letter Dated April 22, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you submit or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.

If these conditions are not complied with the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely,

James A. Tompkins Product Manager 25 Herbicide Branch Registration Division (7505C)

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ACCEPTED

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

AUG 26 1997

Under the Federal Insecticide. Fungicide, and Rodenticide Act. as amended, for the positicide registered under EPA Reg. No. 5242475

ROUNDUP® ULTRA HERBICIDE FOR USE IN DORMANT ALFALFA

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product. Call Collect, day or night. 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product will control or suppress many weeds, including quackgrass, downy brome and cheatgrass in dormant alfalfa.

Apply 8 to 12 ounces per acre of this product. Apply in the spring to alfalfa that is dormant. Applications should be made after spring temperatures have warmed enough to encourage resumption of weed growth, but prior to initiation of trifoliate leaf expansion of the alfalfa. Applications made after expansion of the first trifoliate leaf of the alfalfa will cause growth reduction and reduced crop yield.

Do not use ammonium sulfate when spraying dormant alfaifa with Roundup Ultra.

Do not use this product where a slight yield reduction in the first cutting of alfalfa cannot be tolerated.

Do not make more than one application per year.

Allow 36 hours after application before grazing livestock or harvesting.

Slight discoloration of the alfalfa may occur, but the alfalfa will regreen and regrow under moist soil conditions as effects of this product wear off.

Application of this product is limited to persons who have attended a Monsanto-approved training program. Application of this product can cause crop injury. Any crop injury is the sole responsibility of the applicator.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1996

MAP

MONSANTO COMPANY ST. LOUIS MISSOURI 63167

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EPA Form 1878-12 (8-75)

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 2, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Submission of Supplemental Final Printed Label

Roundupé Ultra Herbicide (EPA Reg. No. 524-475)

Postemergence Applications to Corn with Roundup Ready® Gene

Dear Mr. Tompkins:

For your files, I enclose five (5) copies of the final printed label (print plate number 21137V1-8, dated 28-Mar-97) which the Agency approved on 28-Mar-97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen'J. Wratten Manager, Registrations

「cc: R. P. Schneider

| Please read instructions on reverse before completing form. | Form Approv | ed. OMB No. 2070-0 | 0060. Approval expires 05-31-98 | | | | |
|--|--|---|--|--|--|--|--|
| SEPA Environmental Protection A Washington, DC 20460 | ~ . ⊢ | Registration Amendmen X Other | • | | | | |
| Application fo | r Pesticide - Sectio | on I | | | | | |
| 1. Company/Product Number 524-475 | 2. EPA Product Manag James A. Tom | er | 3. Proposed Classification | | | | |
| 4. Company/Product (Name) Roundup® Ultra Herbicide | PM# 25 | | X | | | | |
| 5. Name and Address of Applicant <i>Unclude ZIP Code)</i> Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. | | | | | | |
| Check if this is a new address | Product Name | | | | | | |
| <u> </u> | ection - II | | · · · | | | | |
| Amendment - Explain below. Resubmission in response to Agency letter dated Notification - Explain below. | Final printed la Agency letter "Me Too" App Other - Explain | plication. | 28.Mg97 | | | | |
| Explanation: Use additional page(s) if necessary. (For section I and Submission of supplemental final printer applications to corn with the Roundup Re | d label - Roundup | Ultra - for p | postemergence | | | | |
| Se | ction - III | | | | | | |
| Material This Product Will Be Packaged In: | | | | | | | |
| Yes Yes No. per If "Yes" No. per If "Yes" | Yes No. per kage wgt container | 2. Type of Conta | tal atic 188 | | | | |
| 3. Location of Net Contents Information 4. Size(s) Retail Con Label Container | teiner 5. | Location of Label Dir On Label On Label | rections | | | | |
| 6. Manner in Which Label is Affixed to Product Lithograph Paper glued Stendiled | Other _ | | | | | | |
| Se | ction - IV | · · · · · · · · · · · · · · · · · · · | | | | | |
| 1. Contact Point (Complete items directly below for identification of inc | dividual to be contacted, if I | necessary, to process | this application.) | | | | |
| | Agricultural Regu Director | 1401011 | phone No. (Include Area Code) 2) 783-2460 | | | | |
| Certification I certify that the statements I have made on this form and all atts I acknowledge that any knowingly false or misleading statement of both under applicable law. | | | 6. Date Application Received (Stamped) | | | | |
| 1 4010/4/1000 | Manager, Registra | tions | | | | | |
| 4. Typed Name /Stephen J. Wratten, Ph.D. 5. Date | June 2, 1997 | | 1 | | | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exampted by 40 CFR 152.81 (b) (4)]:
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization latter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Slock ♣ - Check the appropriate action for which you are submitting this form.

SECTION 1 - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product. -
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purposets for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per rateil container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Sociation of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.

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6. Manner in which label is affixed to product - Indicated the method product label is attached to retail container.

SECTION (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

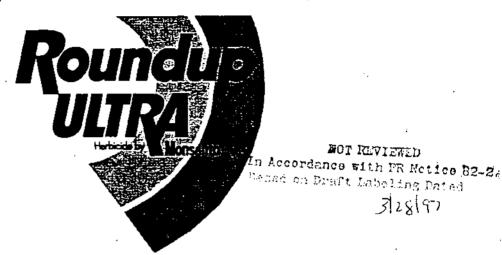
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6. EPA Use Only

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide, container labels and this supplement.



EPA Reg. No. 524-475

Roundup and Roundup Ready® are registered trademarks of Monsanto Company.

FOR POSTEMERGENCE APPLICATIONS TO CORN WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of herbicide application.

See "GENERAL INFORMATION" and "MIXING" sections of thelabel booklet for Roundup® Ultra herbicide for essential product performance information.

GENRAL INFORMATION

MONSANTO COMPANY RECOM-MENDS USE OF THIS PRODUCT ONLY ON CORN SEED DESIG-NATED AS CONTAINING THE ROUNDUP READY® GENE.

 Applying this product to com varieties which are not designated as Roundup Ready will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants which do not contain the Roundup Ready gene since severe injury or destruction will result.

- Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and weed control performance are not warranted by Monsanto when this product is used in conjunction with "brown bag" or "bin run" corn seed saved from previous year's production and replanted.
- The Roundup Ready designation indicates that the corn contains a patented gene which provides tolerance to Monsanto's Roundup brand herbicides. Information on Roundup Ready

corn may be obtained from your seed supplier or Monsanto representative.

Application Instructions

This product may be applied postemergence to Roundup Ready com during the period beginning at comemergence and continuing through the 12-leaf stage or until comheight reaches 30 inches, whichever comes first. Single in-crop applications of this product are not to exceed 1 quart per acre. Sequential in-crop applications of this product should not exceed 2 quarts per growing season. Total Roundup Ultra use should not exceed 8 quarts per acre per year.

Allow a minimum of 50 days between application of this product and harvest of corn forage and 7 days between application and harvest of corn grain. Allow a minimum of 14

days between in-crop applications of this product. THE USE OF ADDITIVES FOR IN-CROP APPLICATIONS TO ROUNDUP READY CORN IS PROHIBITED.

Maximum Yearly Rates Allowed

Preplant / Preemergence (Maximum)......5 quarts/A Total in-crop applications from emergence to 12-leaf stage or 30 inches.........2 quarts/A

Maximum

preharvest rate......1 quart/A Combined total per year for all applications......8 quarts/A

When applied as directed, this product controls annual grass and broadleaf weeds in Roundup Ready corn. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more application of this product. Applications should be made to actively growing weeds before they reach the maximum size listed in the "WEEDS CONTROLLED" section of the label booklet. Refer to the "MIXING" section of the label booklet for proper use instructions

There are no rotational crop restrictions following applications of this product.

ATTENTION: AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift, or splash onto other desirable vegetation since minute quantities of this product can cause severe damage or destruction to crop plants in nontarget areas. The likelihood of plant injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions which allow spray drift to occur such as combinations of pressure and nozzle type that will result in fine particles (mist) which are likely to drift. AVOID APPLYING AT

EXCESSIVE SPEED OR SPRAY PRESSURE.

For ground applications: Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. See "WEEDS CONTROLLED" section of this label for specific recommended rates. Carefully select proper nozzles and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

For aerial applications: Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart per acre. See "WEEDS CONTROLLED" section on this label. AVOID DRIFT-DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT, DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Weeds controlled

For specific rates of application and instructions for control of various annual and perennial weeds, refer to the label booklet. Roundup Ultra applied at up to 1 quant per acre will bumdown or suppress the growth of the following perennial weeds and reduce crop competition: nutsedge, rhizome johnsongrass, quackgrass, Canada thistle, wirestem muhly.

Sequential Applications: Some weeds with multiple germination times or suppressed (stunted) weeds may require a second application of this product. The second application should be made after some regrowth has occurred.

Tank mixtures

A tank mixture of Roundup Ultra plus Micro-Tech® or Partner® may

be used for postemergence and residual control of annual weeds in com. These tank mixtures may be made during the period beginning at corn emergence and continuing until corn height reaches 5 inches.

A Roundup Ultra tank mixture with atrazine, Banvel™, Clarity™, Permit® or 2,4-D may be used for post-emergence control of additional annual weeds in corn. A Roundup Ultra tank mixture with atrazine may be made during the beginning period at com emergence and continuing until corn height reaches 12 inches. A Roundup Ultra tank mixture with Barryel or Clarity at 0.125 to 0.25 lb per acre may be made during the period beginning at comemergence and continuing until com height reaches 30 inches. A Roundup Ultra tank mixture with Permit may be made during the beginning period at emergence and continuing until com height reaches 30 inches. A Roundup Ultra tank mixture with 2,4-D at 0.125 to 0.25 lb per acre may be made during the period beginning at corn emergence and continuing until corn is at the five leaf stage or com height reaches 8 inches, whichever comes first.

Refer to the specific product label and observe all precautions, mixing and application instructions for all products used in tank mixtures.

[®]Micro-Tech, Partner and Permit are registered trademarks of Monsanto Company.

TMBanvel and Clarity are trademarks of Sandoz, Inc.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997 MONSANTO COMPANY ST. LOUIS, MISSOURI 63167 03/28/97 21137V1-8

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 2, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mail #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Submission of Supplemental Final Printed Label

Roundup® Pro Herbicide (EPA Reg. No. 524-475)

Use in Eucalyptus Production

Dear Mr. Tompkins:

For your files, I enclose five (5) copies of the final printed label (print plate number 21136V1-6, dated 20-May-97) which the Agency approved on 6-May-97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

c: R. P. Schneider

228

TELEPHONE: (202) 783-2460 FACSIMILE: (202) 783-2468

| Please read instructions on t | everse before complet | ing form. | | | Form Appro | oved. O | MB No. 20 | 70-0060. | Approval expires 05-31-98 | | |
|--|---|---------------------------------------|---|---|---|-----------------------|-----------------------------|---------------------------|--|--|--|
| SEPA Environmental Protection Washington, DC 204 | | | | ion Agency | | | Registra Amendn Other | | | | |
| | | Application | for | Pesticio | le - Sect | tion I | | , | <u>.</u> | | |
| 1. Company/Product Numbe | 524-475 | | | | roduct Mana s A. Ton | | S | 3, Pro | oposed Classification | | |
| 4. Company/Product (Name) | Roundup® Pro I | Herbicide | PM# 3E | | | | | | | | |
| 5 Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | | | | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No | | | | | | | |
| Check if this | is a new address | | | Produc | ct Name | <u>.</u> | | | | | |
| | | | Se | ction - I | | | - | | | | |
| Amendment - Explain Resubmission in resp | oonse to Agency letter | deted | | | Final printed Agency lett "Me Too" A Other - Exp | er dated Applicati | on. | to 6 | .May.97 | | |
| | n of supplemen s production | tal final | | ction - I | | undup | Pro to | r use | 1n | | |
| <u> </u> | | | Sei | ction - H | <u> </u> | _ | _ | • | | | |
| 1. Material This Product Will Child-Resistant Packaging Yes* No | Unit Packaging Yes No | · · · · · · · · · · · · · · · · · · · | E | er Soluble Pa Yes No | ackaging | | 2. Type of | Metal Plastic Glass | | | |
| Certification must be submitted | If "Yes" Unit Packaging wgt. | No. per container | If "Yes" No. per Package wgt container | | | Paper Other (Specify) | | | | | |
| 3. Location of Net Contents Label C 6. Manner in Which Label is | Container | 4. Size(s) Reta | ıph | ainer | Othe | | otion of Lab On Label | | ons npanying product | | |
| <u> </u> | | Paper g Stencila | | | | | | | | | |
| 1 Contact Point /Complete | items directly heleve f | os identification | | ction - N | | Н посс | | topon ski- | ennication I | | |
| Name Dr. Russell P. Schneider | | | | Title Agricultural Regulation Director | | | | Telephon | ne No. (Include Area Code) 783-2460 | | |
| | ments i have made on ny knowingly false or m law. | | il atta | | | | | | 8. Date Application Received (Stamped) | | |
| 2, Signature | Unat | 3 | . Title | Manage | r, Regi | strat | ions | | 29 | | |
| 4. Typed Name Stephen J | . Wratten, Ph.I | | June 2, 1997 | | | | | | | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing date sources, gathering and maintaining the date needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agancy, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Cartification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any date submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A -ICheck the appropriate action for which you are submitting this form.

SECTION ! - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a
 basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label: The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registration, that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "arriend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the sixs of the individual packets and number per retail container.
- 2. Type of Retail Co.Kainer Indicate type of container in which product will be marketed.
- 3. Location of Nat Contents Indicate the location of the net contents information for your product.
- 4. Sizels, of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resummission, "me-too," reregistration, etc.

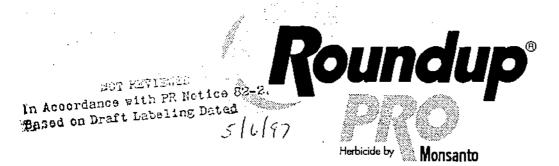
1-5. Self-explanaton;. • •

- Of 15

6. EPA Use Only.

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP PRO®
HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS
SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Pro herbicide and this supplement.



EPA Reg. No. 524-475

®Roundup is a registered trademark of Monsanto Company.

FOR USE IN EUCALYPTUS (Eucalyptus spp.) PRODUCTION

Keep out of reach of children.

CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup Pro herbicide label booklet for essential product performance information.

PREPLANT

This product is recommended for use prior to planting eucalyptus species.

GROUND BROADCAST SPRAYS: Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified.

See the Roundup Pro herbicide label booklet for specific rates for the weeds being controlled.

IN ESTABLISHED EUCALYPTUS

This product can be used around established eucalyptus trees to control undesirable vegetation.

DIRECTED SPRAYS (Spray-to-wet applications)

Use a 1 to 2 percent spray solution to control herbaceous weeds in eucalyptus farms. Use a 2 percent spray solution for control of undesirable woody brush and trees. For 'hard-to-control' weeds, use a 5 to 10 percent spray solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of eucalyptus plants.

WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the product label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Pro solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

Avoid herbicide contact with desirable vegetation. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

Read "Limit of Warranty and Liability" in the label booklet for Roundup Pro before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21136V1-6

5/20/97

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

June 2, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Submission of Supplemental Final Printed Label

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Use in Eucalyptus Production

Dear Mr. Tompkins:

For your files, I enclose five (5) copies of the final printed label (print plate number 21137V1-12, dated 20-May-97) which the Agency approved on 6-May-97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

çc: R. P. Schneider

| Please read instructions on reverse before completing form. | Form Approved. OMB No. 2070-0060. Approval expires 05-31-9 |
|--|---|
| United States | Registration OPP Identifier Number |
| Environmental Protection Washington, DC 2046 | |
| Application | n for Pesticide - Section I |
| 1. Company/Product Number 524-475 | 2. EPA Product Manager James A. Tompkins |
| 4. Company/Product (Name) Roundup® Ultra Herbicide | PM# 25 None Restricted |
| 5. Name and Address of Applicant <i>(Include ZIP Code)</i> Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No |
| Check if this is a new address | Product Name |
| | Section - II |
| Amendment - Explain below. Resubmission in response to Agency letter dated | Final printed labels in response to 6. May. 97 Agency letter dated "Me Too" Application. |
| Notification - Explain below. | Other - Explain below. |
| Explanation: Use additional page(s) if necessary. (For section | I and Section II.) |
| [†] Submission of supplemental final prime Eucalyptus production | nted label - Roundup Ultra use in |
| | Section - III |
| 1. Material This Product Will Be Packaged In: | 000001-111 |
| Child-Resistant Packaging Yes No * Certification must be submitted Unit Packaging Yes No. per Unit Packaging wgt. No. per | Water Soluble Packaging Yes No If "Yes" Package wgt No. per Package wgt Other (Specify) |
| 3. Location of Net Contents Information 4. Size(s) Retailed Label Container | eif Container 5. Location of Label Directions On Label On Labeling accompanying product |
| 6. Manner in Which Label is Affixed to Product Uithogr Paper C. Stencil | eph Other |
| 3000 | Section - IV |
| 1. Contact Point | n of individual to be contacted, if necessary, to process this application.) |
| Name Dr. Russell P. Schneider | Title Agricultural Regulation Telephone No. (Include Area Code) Director (202) 783-2460 |
| Certificat I certify that the statements I have made on this form and it I acknowledge that any knowingly false or misleading state both under applicable law. | all attachments thereto are true, accurate and complete. Received |

3. Title

5. Date

Manager, Registrations

June 2, 1997

Stephen J. Wratten, Ph.D.

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Weshington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following meterial must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29), (If not exempted by 40 CFR 152.81 (b) (4));
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3 Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Metrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8,5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on F x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant. Block A - Check the appropriate action for which you are submitting this form.

SECTION ! - This section must be completed, as applicable, for ell registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not parmitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or parson and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an egent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pasticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION_II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency latter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that partains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 8. Manner in which tabel is affixed to product Indicated the method product label is attached to retail container.

SFC (10N IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, atc.

- 1-5. Self-explanatory.
- EPA Use Only.

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.



MOT REVIEWED
In Accordance with PR Notice 82-2,
Based on Draft Labelius Dated

5/20/97

^a EPA Reg. No. 524-475

@Roundup is a registered trademark of Monsanto Company.

FOR USE IN EUCALYPTUS (Eucalyptus spp.) PRODUCTION

Keep out of reach of children.

CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000,

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup Ultra herbicide label booklet for essential product performance information.

PREPLANT

This product is recommended for use prior to planting eucalyptus species.

GROUND BROADCAST SPRAYS:

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified.

See the Roundup Ultra herbicide label booklet for specific rates for the weeds being controlled.

IN ESTABLISHED EUCALYPTUS

This product can be used around established eucalyptus trees to control undesirable vegetation.

DIRECTED SPRAYS (Spray-to-wet applications)

Use a 1 to 2 percent spray solution to control herbaceous weeds in eucalyptus farms. Use a 2 percent spray solution for control of undesirable woody brush and trees. For 'hard-to-control' weeds, use a 5 to 10 percent spray solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of eucalyptus plants.

WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the product label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Ultra solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.

Avoid herbicide contact with desirable vegetation. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

Read "Limit of Warranty and Liability" in the label booklet for Roundup Ultra before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21137V1-12

5/20/97

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 12, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (NOTIFY)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Ultra® Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental Label: Non-bearing Ginseng

Dear Mr. Tompkins:

Enclosed are five (5) printed labels (Print Plate No. 21137V1-11) dated 21-Apr-97 which include the supplemental uses that were approved by the Agency on 21-Apr-97.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

sc: R. P. Schneider

236

TELEPHONE: (202) 783 - 2460 FACSIMILE: (202) 783 - 2468

| Please read instructions on reve | rse before completing form. | | Form Appr | oved. OMB No. 20 | 70-0060. | Approval expires 05-31-9 | | | |
|--|--|--|--|--|----------------------------|--|--|--|--|
| ≎EPA Er | United States nvironmental Protect Washington, DC 26 | - | | Registra Amendr Other | | OPP Identifier Number 258336 | | | |
| | Applicat | ion for Pesti | cide - Sec | tion I | | | | | |
| 1. Company/Product Number | 524-475 | 1 | A Product Man ames A. To | - | 3. Pro | posed Classification | | | |
| 4. Company/Product (Name) Ro | undup® Ultra Herbic | ide PM# | | | | | | | |
| 5. Name and Address of Applica Monsanto Compan 700 14th Street Washington, DC Chack if this is a | y , N.W., Suite 1100 20005 | (b)(i) to: EPA | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. Product Name | | | | | | |
| | | Section | - 11 | <u> </u> | <u>.</u> | | | | |
| Notification - Explain belo | e to Agency letter deted | on I and Section II. | Agency lett "Me Tao" A Other - Exp) el: Non-t | Application. | | | | | |
| | | Section | - IN | | | | | | |
| 1. Material This Product Will Be | Packaged In: | | | | | | | | |
| Yes" No | No "Yes" No Per nit Packaging wgt, | Water Solubl Yes No If "Yes" Package wgt | No. per | pecify) | | | | | |
| 3. Location of Net Contents Info Label Contents | . | etail Container | | 5. Location of Labo On Labo | | ns panying product | | | |
| 6. Manner in Which Label is Affi | ixed to Product Lith | ograph er glued eciled | Othe | r | | | | | |
| | | Section - | | | | <u> </u> | | | |
| 1. Contact Point (Complete iten | ns directly below for identifica | tion of individual t | be contacted, | if necessary, to pr | ocess this | application.) | | | |
| Dr. Russell P. | Schneider | 1 13 1 - 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 | | | | No. (Include Area Code) 2) 783-2460 | | | |
| I certify that the statemen i acknowledge that any kr both under applicable law | Certific nts I have made on this form at nowingly false or misleading st | nd all attachments | thereto ere trui unishable by fir | e, accurate and one or imprisonment | ກວ ^{ເອ} າອະ or | J. Dute Application Received (Stamped) | | | |
| 2. Signature | kut | 3. Tiuo Manager | 3. Title Manager, Registrations | | | | | | |
| 4. Typed Name / Stephen J | . Wratten, Ph.D. | 5. Date M | May 12, 1997 | | | | | | |

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per sponse, including time for reviewing instructions, searching existing data sources, gathering and mainteining the data needed, and completing and viewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including aggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401-M Street, SW, /ashington, DC 20460.

VSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications or notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the allowing material must accompany the application:

- 1. Certification with Respect to Citation of Date (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- Matrices where applicable.

ubmission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be prestructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8 11 inch paper for submission.

ubmission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

PECIFIC. INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration ction, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, otifications; reregistrations, etc., Sections I, II, and IV must be completed by the applicant. lock A - Check the appropriate action for which you are submitting this form.

ECTION 1 - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- Proposed Classification Specify the proposed classification of this product.
- Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only.

 Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- Expedited Review: FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

ECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product Amendment), for a fesubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for a registration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for egistration.

- Subject of submission. Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.
- SECTION III (Packaging and Container Information) This Section must be completed for all applications submitted in connection with new agistration or applicable amendments.
- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Usu Disactions Indicate the location of the use directions for your product.

was all their we are all the

5. Manner in which label is affixed to product - Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, esubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory
- EPA Use Only.

Historia de la compaño de

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.



EOT REVIEWED In Accordance with PR Rotice B2-2. Based on Draft Labeling Dated

4/21/97

EPA Reg. No. 524-475

®Roundup is a registered trademark of Monsanto Company.

FOR USE IN NONBEARING GINSENG

Keep out of reach of children. CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBI-CIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUC-TION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product may be used for

general weed control in established non-bearing ginseng.

Direct applications so that there is no contact of this product with the ginseng plant. Applications may be made with boom equipment, CDA, shielded sprayers, handheld and high volume wands, lances, orchard guns or with wiper application equipment. Applications must be made at least one year prior to harvest.

For specific rates of application and instructions for control of various annual and perennial weeds, see the Weed Control tables in the label booklet for Roundup Ultra.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN

BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF DESIRABLE PLANTS. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

©Monsanto Company 1997

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

21137V1-11

4/21/97

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Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 12, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (NOTIFY)
U.S. Environmental Protection Agency
Room 266A, Crystal Mail #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup Pro® Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Supplemental Label: Broinus / Medusahead

Dear Mr. Tompkins:

Enclosed are five (5) printed labels (Print Plate No. 21136V1-5) dated 21-Apr-97 which include the supplemental uses that were approved by the Agency on 21-Apr-97.

If you have any questions on this matter please feel free to contact me through Dr. Russetl P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen/J. Wratten Manager, Registrations

cc: R. P. Schneider



| Please read instructions | on reverse before completi | ng form. | | Form Appr | oved. C | MB No. 2070 | -0060. | Approv | al expires | 05-31-98 |
|--|---|--|------------------|--|------------------------|---|------------------------------------|-------------------|------------------------------|-------------|
| \$EPA | Washington, DC 20460 | | | Regis Amer X Other | | | | OPP Id | 258 | 33 <u>4</u> |
| | | Application fo | or Pestici | de - Sect | tion I | | | | | |
| 1. Company/Product Nur | mber 524-475 | | | Product Man les A. To | | 15 | ļ ,, | | lassificati | |
| 4. Company/Product (Na | me) Roundup® Pro | Herbicide | PM# | 25 | | | Ľ | None | | estricted |
| Monsanto 700 14th | Applicant (Include ZIP Coo Company Street, N.W., Su on, DC 20005 | | (b)(i), r to: | ny product i | is simila | n accordance ar or identica | l in cor | npositio | on and la | |
| Check if | this is a new address | · • | Produ | ict Name | ···· | <u> </u> | | | | |
| | | S | ection - | Ħ | | | | | · - | |
| Amendment - Exp Resubmission in I Notification - Exp | response to Agency letter | dated | [x | Final printed Agency lett "Me Too" / | ter dated Applicati | ion. | | | | |
| Fundamentary III | titional page(s) if necessary | | | | | | | | | |
| Submission | of final printed | supplementa | al label | : Bromus | s/Med | usahead | | | | |
| | | S | ection - | III | | | • | | | |
| 1. Material This Product | Will Be Packaged In: | | | | | | | | | |
| Child-Resistant Packagin Yes* No Cartification mus | Yes No | No. per If | Yes Yes | No. par | | | Matal Plastic Glass Paper | | | |
| be submitted | Unit Packaging wgt. | container Pe | ickaga wgt | contains | '' | ' لـــــا | Other (2 | pecify) | | ·- |
| 3. Location of Net Conte | nts Information Container | 4. Size(s) Retail Co | ontainer | · · · · · | 5. Loc | ation of Label On Label On Labeling | | | product | |
| 6. Manner in Which Labo | el is Affixed to Product | Lithograph Paper glued Stenciled | i | Othe | or | | | | | |
| | | S | ection - | V | | · | | | <u>.</u> | |
| 1. Contact Point (Comp | lete items directly below fo | or identification of i | individual to i | be contacted, | , if nece | ssary, to proc | ess this | applica | tion.) | |
| Name Dr. Russell | P. Schneider | Title | Agricu Direct | ltural R or | legu1 a | | | e No. (tr 783– | | ea Code) |
| 1 | tatements I have made on it any knowingly false or m ible law. | | ttachments ti | | | | | Ren | e ∧pplice eived Stamp€ | |
| 2. Signatura | MURAS | | anager, | Registra | tions | 5 | | | ^ ! | u\ |
| 4. Typed Name Steph | en J. Wratten, Pl | h.D. 5. De | | y 12, 19 | 997 | | | - | ・ク ・ | T_{I} |



PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

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<u>ISTRUCTIONS:</u> This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications renotifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the allowing material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). Ilf not exempted by 40 CFR 152.81 (b) (4)I;
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling:
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable:
- 7. Matrices where epplicable.

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SECTION ! - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an astablishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration; or amendments to existing registration, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration:

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types, Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Connainer Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product,
- 4. Size(s) of Retail Container Specify the not contents of all retail containers for your product.
- 5. Location of Use Directions lucificate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

<u>SECTION IV</u> (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- . EPA Use Only,



READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for



EPA Reg. No. 524-475

BUT KEVIEWED

Roundup® is a registered trademark of Monsanto Company.

ROUNDUP PRO HERBICIDE FOR CONTROL OR SUPPRESSION OF BROMUS SPECIES AND MEDUSAHEAD FOUND IN INDUSTRIAL, RANGELAND AND PASTURE SITES IN COLORADO, IDAHO, IOWA, KANSAS, MONTANA, NEBRASKA, NORTH DAKOTA, OREGON, SOUTH DAKOTA, UTAH, WASHING-TON AND WYOMING.

Keep out of reach of children.

CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

When applied as directed in this label, there are no grazing restrictions.

APPLICATION EQUIPMENT AND **TECHNIQUES**

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

BROMUS SPECIES

This product may be used to treat downy brome (Bromus tectorum), Japanese brome (Bromus japonicus), soft chess (Bromus mollis) and cheatgrass (Bromus secalinus) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of product per acre on a broadcast

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

MEDUSAHEAD

To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4 leaf stage. Applications may be made in the fall or spring.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup PRO before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at

MONSANTO COMPANY ST. LOUIS, MISSOUR: 63167 ©MONSANTO COMPANY 1997

21136V1-5



Mr. Stephen J. Wratte, Ph.D. Manager, Registrations MONSANTO COMPANY 700 14th Street N.W. Suite 1100 Washington, D.C. 20005

Dear Dr. Wratten:

The Agency has reviewed your application for a revised basic and an alternate confidential statement of formula (CSF) for EPA Registration 524-475. Both CSFs dated 5-21-97 are acceptable. A copy of both CSFs have been added to the file for the subject product.

Sincerely,

Sherada D. Hobgood Minor Formulation Review Coordinator Registration Division (7505W)



DATE OUT: July 23, 1997

MP [] PRODUCT CHEMISTRY REVIEW SUBJECT: EP [x]

DP BARCODE No.: D236881 REG./File Symbol No.: 524-475

PRODUCT NAME: Roundup Ultra Herbicide

المراكب الأراب المراكب والرابع الإنساني المراجع بعد وسيت بسم المديكة فساد بالمعالم المرا

COMPANY: Monsanto

TO: Sherada Hobgood, Minor Formulation Use Coordinator

> Registration Support Branch Registration Division (7505C)

Bruce F. Kitchens, Chemist Bruce 7. Kathens 7/23/97 FROM:

Technical Review Branch

Registration Division (7505C)

INTRODUCTION:

The registrant, Monsanto, is requesting an amendment to a basic and an alternate formulation for the product, Roundup Ultra Herbicide. The registrant has submitted a basic and alternate CSF in support of this amendment. The Technical Review Branch (TRB) has been asked to review this submission.

SUMMARY OF FINDINGS:

TRB has reviewed this submission and reports the following findings:

- All inert ingredients are cleared for use in formulated products.
 - All inert ingredients are exempt from tolerances as specified in 40 CFR 180.1001.

CONCLUSIONS:

TRB has reviewed the submitted data package and concludes the following:

> This submission meets the requirements as specified in 40CFR 152.43 as it pertains to alternate formulations.



Bruce.

DP BARCODE: D236881

CASE: 034794

DATA PACKAGE RECORD

SUBMISSION: S525653

BEAN SHEET

DATE: 06/26/9' Page 1 of 1

* * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION

ACTION: 392 AMENDMENT-MINOR FORM CHNG

RANKING : 0 POINTS ()

CHEMICALS: 103601 Glyphosate, isopropylamine salt

41.00001

ID#: 000524-00475 MON-65005 HERBICIDE

PM TEAM REVIEWER: PHILIP ERRICO

COMPANY: 000524 MONSANTO AGRICULTURAL CO PRODUCT MANAGER: 25 PHILIP ERRICO

703-305-6027 ROOM: CM2 241

703-305-6027 ROOM: CM2 241

RECEIVED DATE: 05/27/97 DUE OUT DATE: 07/11/97

* * * DATA PACKAGE INFORMATION * * *

BARCODE: 236881 EXPEDITE: N DATE SENT: 06/26/97 DATE RET.: /

EMICAL: 103601 Glyphosate, isopropylamine salt

□P TYPE: 001 Submission Related Data Package

CSF: Y LABEL: N

ASSIGNED TO DATE IN DATE OUT ADMIN DUE DATE: 07/31/97

DIV : RD BRAN: RSB NEGOT DATE: / /
PROJ DATE: / /

SECT: PCRS
REVR:

CONTR:

6128197 11

* * * DATA REVIEW INSTRUCTIONS * * *

MONSANTO has submitted a minor formulation amendment requesting the addition of surfectants as two alternate formulations to the basic formulation. Please determine if these changes are acceptable.

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC ' BRANCH/SECTION DATE OUT DUE BACK INS CSF LABEL



Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

May 21, 1997

Hand Delivered

Office of Pesticide Programs
Document Processing Center (AMEND)
U.S. Environmental Protection Agency
Room 266A, Crystal Mall #2
1921 Jefferson Davis Highway
Arlington, VA 22202

Attention:

Mr. James A. Tompkins (7505C)

Team Leader (25)

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475) Amendment of Confidential Statement of Formula

Dear Mr. Tompkins:

Roundup Ultra Herbicide (MON 65005) is the basic formulation presently produced and sold under EPA Reg. No. 524-475. MON 77360 is registered under the same Reg. No. as an alternate brand name which is associated with an alternate Confidential Statement of Formula.

At this time. Monsanto wishes to amend these two CSF's to include trace amounts of the each alternate surfactant in the other CSF. It is intended that these two formulations will be produced from time to time in common equipment, and this amendment will facilitate conversion between the two formulations without the need for rigorous removal of all traces of the other formulation from the manufacturing vessels. The previously approved CSF's for these products (dated 2-Jan-97, approved on 4-Mar-97) are enclosed for your reference.

If you have any questions on this matter please feel free to contact me through Dr. Russell P. Schneider or directly at 314-694-1582.

Sincerely,

Stephen J. Wratten Manager, Registrations

cc: R. P. Schneider

JUN



| United States Environmental Protection Washington, DC 20460 | Agency Amendment Other 25834 |
|---|--|
| Application | or Pesticide - Section I |
| 11. Company/Product Number 524-475 | 2. EPA Product Manager James A. Tompkins 3. Proposed Classification |
| 4. Company/Product (Name) Roundup® Ultra .Herbicide | PM# 25 |
| 5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC. 20005 | 6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. |
| Check if this is a new address | Product Name |
| | Section - II |
| Amendment - Explain below. Resubmission in response to Agency letter deted | Final printed labels in response to Agency letter deted "Me Too" Application. |
| Notification - Explain below. | Other - Explain below. |
| of Formula for Roundup Ultra | PR Notice 95-2 to Confidential Statement OP P/OPD 22 |
| | Section - III |
| Yes Yes No. per | Vater Soluble Packaging 2. Type of Container Heatal Plastic Glass Glass Paper Other (Specify) |
| 3. Location of Net Contents Information 4. Size(s) Retail (| ontainer 5. Location of Label Directions On Label On Labeling accompanying product |
| 6. Manner in Which Lebel is Affixed to Product Lithograph Paper glut Stendied | d Other |
| | Section - IV |
| | individual to be contected, if necessary, to process this application.) |
| Dr. Russell P. Schneider | Agricultural Regulation Telephone No. (Include Area Code) Director (202) 783-2460 |
| Certification I certify that the statements I have made on this form and all I acknowledge that any knowingly false or misleading statemed both under applicable law. | strachments thereto are true, accurate and complete. Received |
| 2. Signature 3. T | Manager, Registrations |
| 4. Typed Name Stephen J. Wratten, Ph.D. 5. C | May 21, 1997 |



PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

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- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted:
- 6. Authorization letter where applicable;
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SECTION 1 This section must be completed, as applicable, for all registration actions.

- 1. Company Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Managet. If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
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SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

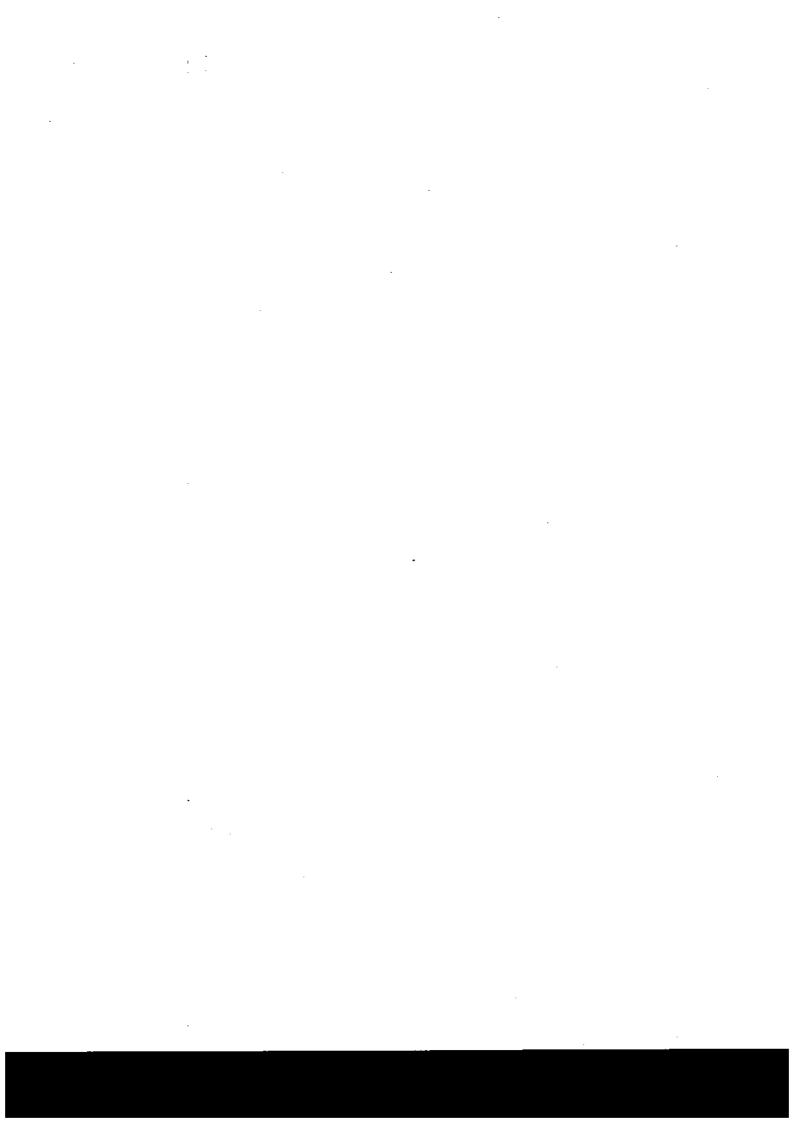
- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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| Please read instructions on r | everse before completing form. | | Form App | roved. OMB No. 3 | 2070-0060. | Approval expires 05-31-98 |
|--|---|---|--|--|------------------------------------|--|
| ≎EPA | United States | | Registr Amend | | OPP Identifier Number 252237 | |
| ··· | Applic | ation for I | Pesticide - Sec | | | <u> </u> |
| 1 . Company/Product Number | | <u> </u> | 2. EPA Product Mai Philip V. | nager | 3. Pro | oposed Classification |
| 4. Company/Product (Name) Roundur | o® Ultra Herbicide | | PM# 25 | | x | None Restricted |
| Washington, DC | / , N.W., Suite 1100 | | _ | is similar or ide | ntical in co | FIFRA Section 3(c)(3) mposition and labeling |
| | · · | Sec | tion - II | | | |
| Amendment - Explain Resubmission in resp X Notification - Explain | onse to Agency letter dated | | Agency let Me Too | ed labels in respon tter dated Application. plain beloWOTIF | | |
| | nalpage(s) if necessary. (For se | | | | | |
| | | Sec | tion - III | | | |
| 1. Material This Product Will | Be Packaged In: | | | | | |
| Child-Resistant Packaging Yes* No Certification must be submitted | Unit Packaging Yes No If "Yes" Unit Packaging wgt. | r If *Yes | Soluble Packaging Yes No No No. per ge wgt contain | | Metal Plastic Glass Paper Other (S | · |
| 3. Location of Net Contents Label C | Information 4. Sizets ontainer | r) Retail Contai | ner | 5. Location of L | oel · | ons panying product |
| 6. Manner in Which Label is | Affixed to Product L | ithograph apar glued tenciled | Оth | er | | |
| | | Sect | ion - IV | | | |
| 1. Contact Point (Complete | items directly below for identif | ication of indiv | idual to be contacted | l, if necessary, to | process this | application.) |
| Name Dr. Russell | P. Schneider | | gricultural R irector | egulation | 1 - | e No. (Include Area Code) 783-2460 |
| I certify that the state I acknowledge that an both under applicable | ments I have made on this form y knowingly false or misleading | ification and all attach statement ma | nments thereto are the sy be punishable by f | ue, accurate and c ine or imprisonme | complete, nt or | 6. Date Application Recoived (Stamped) |
| 2. Signature Shula a Selvette Manage | | | ager, Regulat | ory Affairs | | 0 |
| 4. Typed Name Sheila | A. Schuette, Ph.D. | 5. Date | | | | · · · · · · · · |



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- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individuer packets and number per retail container.
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- 3. Location of Net Contents Indicate the location of the net contents information for your product.
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- 5. Location of Use Disactions Indicate the location of the use directions for your product.
- 6. Manner in which 'abel is affixed to product Indicated the method product label is attached to retail container.

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- 1-5. Self-explanatory.
- 6. EPA Use Only.

12 (20 mm mm 11 mm 12 mm 13 mm 14 mm



SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE

PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ROUNDUP ® ULTRA

Herbicide by Monsanto

EPA Reg. No. 524-475

FOR TRANSPLANTED TOMATOES

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

RECOMMENDATIONS

This product may be applied prior to transplanting tomatoes. Allow at least 3 days between application and planting.

For specific rates of application and instructions for control of various annual and perennial weeds, see the Weed Control tables in the label booklet for Roundup Ultra.

Read the "Limit of Warranty and Liability" in the label booklet for koundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167



Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 18, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

NOTIFICATION of a Supplemental Label for Use in

Transplanted Tomatoes

Dear Sir:

Monsanto is notifying the Agency of a supplemental label for use of Roundup Ultra herbicide (EPA Reg. No. 524-475) in transplanted tomatoes. This use was approved by the Agency on March 4, 1997 in the full Roundup Ultra label booklet. Since the full booklet will not be reprinted for several months and we would like to provide growers with this label for the 1997 season, we have prepared a supplemental label.

Three (3) copies of the supplemental label are enclosed for the Agency's files.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.C.

Manager, Regulatory Affairs

Shela Q. Schutt

(314) 694-7248

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TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468

• • .

| United States Environmental Protection Agency Washington, DC 20460 Registration Amendm Other | | | Registration | |
|--|---|--|--|--|
| | | | ├ ── ऻ | ent 252213 |
| | Applicatio | n for Pesticide - Sec | tion I | |
| 1. Company/Product Number | 524-475 | 2. EPA Product Man Philip V. | | 3. Proposed Classification |
| 4. Company/Product (Name) Roundup® Uitr | · - <u>-</u> | PM# 25 | | X None Restricted |
| Washington, D | any et, N.W., Suite 1100 | (b)(i), my product to: EPA Reg. No | is similar or identica | |
| | | - Section - II | | |
| XX Notification - Explain b | nse to Agency letter dated | Final printe Agancy let "Me Too" Other - Exp | d labels in response Noter dated Application, Italian below. | COTIFICATION 8 2 5 1997 |
| Submission o | f Notification: Suppl in Ar | kansas Only | erial applica | tion |
| · | · · · · · · · · · · · · · · · · · · · | Section - III | | |
| 1. Material This Product Will I | | Waran Calabla Bastania | Ta t(C- | |
| Yea* No | Ves No No. per Unit Packaging wgt. | Water Soluble Packaging Yes No If "Yes" Package wgt Contains | | nterner Metal Plastic Gless Paper Other (Specify) |
| 3. Location of Net Contents In | formation 4. Size(s) Ret | ail Container | 5. Location of Label On Label On Labeling | Directions paccompanying product |
| 6. Manner in Which Label is A | ffixed to Product Lithog Paper Stenci | glued | or | |
| · | | Section - IV | | |
| 1. Contact Point (Complete it | ems directly below for identification | n of individual to be contacted | , if necessary, to proce | ess this application.) |
| Dr. Russell P. | Schneider | Title Agricultural Re Director | <u> </u> | elaphone No. (Include Area Code) 202) 783-2460 |
| | Certifica ents I have made on this form and knowingly false or misleading stat w | all attachments thereto are tru | | |
| 2. Signature Abula A. 4. Typed Name | Schretta | 3.Tide Manager, Regulato | ory Affairs | 151 |
| T. Typed Haine | | Feb. 61/19 | 97 | |

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approvel expires 05-31-98



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1-5. Self-explanatory.

6. EPA Use Only.

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United States Environmental Protection Agency Washington, DC 20460

SEPA Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address | EPA File Symbol/Registration Number | | | |
|---|---|--|--|--|
| Monsanto Company | 524-475 | | | |
| 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | Product Name Roundup® Ultra Herbicide | | | |
| | Date of Application February 11, 1997 | | | |
| NOTE: If your product is a 100% repackaging of art is labeled for the same uses, you do not need to submit Exemption Statement (EPA Form 8570-27). | | | | |
| This application is supported by all data submitted options are indicated, this application is supported by properties or effects of this product that is identical of data that would be required to be submitted if the product of identical or similar composition and interthe date of apropval of this application. (Check the pertain to your application.) | by all data in the Agency's files that concern the l or substantially similar, and that is one of the types is application sought the initial registration of a nded uses under the data requirements in effect on | | | |
| 2. I certify that, for each study cited in support of this study, | application for registration that is an exclusive use | | | |
| X I am the original submitter*; or | | | | |
| I have obtained the written permission of the or | riginal data submitter to cite that study* | | | |
| I certify that, for each study cited in support of this a study. | application for registration that is not an exclusive use | | | |
| a. X I am the original data submitter*; or | | | | |
| I have obtained the written permission of the | e original data submitter to cite that study*; or | | | |
| 3(c)(1)(D) and 3(c)(2)(D) of the Federal Instant and (b) Commence negotiations to determine | t have submitted data I have cited to support this appensation for those data in accordance with section ecticide, Fungicide and Rodenticide Act (FIFRA); which data are subject to the compensation terms of compensation due, if any. The companies I | | | |
| in my product (cite-all method or cite-all General Offer Statement below.) | ata Submitters List for all active ingredients contained option under Selective Method*). (Also, sign the | | | |
| Those companies that have submitted the | e studies which I have cited (Selective method*). | | | |
| A Data Matrix identifying these studies is attached cite-all method.) | d. (Note: a Data Matrix is not required under the | | | |

| Sheela J. Schee | Name and Title Sheila A. Schuette, PH. Manager, Regulatory Affa | | |
|------------------|---|----------------------|---------------------------|
| General persons, | I Offer to Pay: I hereby offer and agree to pay co, with regard to the approval of this application, to | ompensation to other | ٠ |
| Signature | Name and Title | Date | / \(\mathbf{y} \) |



SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475



FOR AERIAL APPLICATION IN ARKANSAS ONLY

Keep out of reach of children.

CAUTION!

| n case of an emergency involving this | product, Call Collect, | day or night, | 314-694-4000. |
|---------------------------------------|------------------------|---------------|---------------|
|---------------------------------------|------------------------|---------------|---------------|

® Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

USE DIRECTIONS

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY



VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

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4 1

Use the recommended rate of this product in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range are recommended.

Applications should typically be made with the nozzle-release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75% of the length of the wingspan or rotor. In many cases, reducing this distance to 65% of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing air flow on rotary winged aircraft. Avoid the use of nozzles with wide angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions may occur when wind speeds are less than 2 mph.

Use the following guidelines when applications are made near crops or other desirable vegetation:

- 1. Do not apply within 100 feet of any desirable vegetation or crops.
- 2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crops, do not apply within 500 feet upwind of the desirable vegetation or crops.
- 3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crops will likely require buffer zones in excess of 500 feet.





Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

© Monsanto Company 1997

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167



Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

February 11, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

NOTIFICATION: Submission of Supplemental Label for Aerial

Application in Arkansas Only

Dear Sir:

Monsanto is notifying the Agency of a supplemental label for use of Roundup Ultra herbicide (EPA Reg. No. 524-475) for aerial applications in Arkansas. This label, which contains language based on EPA's Draft Best Management Practices for Aerial Application, was requested by the Arkansas Department of Agriculture. They will distribute this information to certified aerial applicators in that state to reduce the potential for drift. This label will be distributed in Arkansas only.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shila a. Schuette

(314) 694-7248



Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W. Suite #1100 Washington, D. C. 20005

Dear Dr. Schuette:

Same To Grant Section

Subject: Roundup Pro Herbicide (Preplant and Established Eucalyptus)
EPA Registration No. 524-475
Your Application Dated April 10, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Acting Team Leader 25
Herbicide Branch
Registration Division (7505C



SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP PRO® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Pro herbicide and this supplement.

ROUNDUP® PRO

HERBICIDE BY MONSANTO

EPA Reg. No. 524-475

ROUNDUP PRO HERBICIDE FOR USE IN EUCALYPTUS (Eucalyptus spp.) PRODUCTION

Keep out of reach of children.

CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

Roundup® is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup Pro herbicide label booklet for essential product performance information.

PREPLANT

ACCEPTED

MAY - 6 1997

Under the Federal Insecticide. Fungicide, and Redemicide Act. as amended, to the posticide registered under UPA Resp. No. 524-475

1



This product is recommended for use prior to planting eucalyptus species.

GROUND BROADCAST SPRAYS:

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified.

See the Roundup Pro herbicide label booklet for specific rates for the weeds being controlled.

IN ESTABLISHED EUCALYPTUS

This product can be used around established eucalyptus trees to control undesirable vegetation.

DIRECTED SPRAYS (Spray-to-wet applications)

Use a 1 to 2 percent spray solution to control herbaceous weeds in eucalyptus farms. Use a 2 percent spray solution for control of undesirable woody brush and trees. For 'hard-to-control' weeds, use a 5 to 10 percent spray solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of eucalyptus plants.

WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the product label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Pro solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.





AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Pro before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company, 1997

Monsanto St. Louis, Missouri 63167



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EPA Form 4379-13 (3-75)



MAY - 8 1997

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W. Suite #1100 Washington, D. C. 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Preplant and Established Eucalyptus)
EPA Registration No. 524-475

Your Application Dated April 10, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins

Acting Team Leader 25

Herbicide Branch

Registration Division (7505C



SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP ULTRA® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING

"Label" as used in this supplemental labeling refers to the label booklet for Roundup Ultra herbicide and this supplement.

ROUNDUP® ULTRA

HERBICIDE BY MONSANTO

EPA Reg. No. 524-475

ROUNDUP ULTRA HERBICIDE FOR USE IN EUCALYPTUS (Eucalyptus spp.) PRODUCTION

Keep out of reach of children.

CAUTION!

In case of emergency involving this product, Call Collect, day or night, 314-694-4000.

Roundup® is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

See the Roundup Ultra herbicide label booklet for essential product performance information.

PREPLANT

ACCEPTED

MAY - 6 1997

Under the Federal Insecticide. Fungicide, and Redenticide Act. on amended, for the posticide requirered under the Res. No. 67 July 475

Ultraeucasup.doc/04/08/97



This product is recommended for use prior to planting eucalyptus species.

GROUND BROADCAST SPRAYS:

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified.

See the Roundup Ultra herbicide label booklet for specific rates for the weeds being controlled.

IN ESTABLISHED EUCALYPTUS

This product can be used around established eucalyptus trees to control undesirable vegetation.

DIRECTED SPRAYS (Spray-to-wet applications)

Use a 1 to 2 percent spray solution to control herbaceous weeds in eucalyptus farms. Use a 2 percent spray solution for control of undesirable woody brush and trees. For 'hard-to-control' weeds, use a 5 to 10 percent spray solution. Avoid contact of spray, drift, or mist with foliage, green bark or non-woody surface roots of eucalyptus plants.

WIPERS

This product may be used through wick or other suitable wiper applicators for control or partial control of grass and broadleaf weeds listed on the product label.

For wick applicators, mix 1 gallon of this product with 2 gallons water to make a 33% solution. For wiper systems that can handle thicker solutions, such as force fed systems, a 33 to 100% Roundup Ultra solution may be used.

For best results ensure that the herbicide solution is allowed to contact the maximum amount of leaf surface. As weed densities increase, decrease equipment speed to allow sufficient herbicide flow to wet all weed surfaces contacted. Weeds not contacted will be unaffected.





AVOID HERBICIDE CONTACT WITH DESIRABLE VEGETATION. Desirable vegetation contacted by the herbicide solution may be injured or controlled. This includes foliage, fruit, or green stems.

Read "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Ultra before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©Monsanto Company, 1997

Monsanto St. Louis, Missouri 63167 . . . : •

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| 1. Company/Product Number 524-475 | | 2. EPA P | oduct Mani | nger | | 3. Pro | oposed Classification |
| 4. Company/Product (Name) Roundup® Ultra Herbi Roundup® Pro Herbicide | cide | PM# | 25 | | | | None Restricted |
| 5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 Check if this is a new address | | (b)(i), my to: EPA Ri | product i | s sim | | ical in co | FIFRA Section 3(c)(3) mposition and labeling |
| | Secti | on - II | | • | | | |
| X Amendment - Explain below. Resubmission in response to Agency letter dated Notification - Explain below. | | | Final printed Agency lett "Me Too" A Other - Exp | er dat Applica | ition. | e to | |
| Explanation: Use additional page(s) if necessary. (For section Hand Section H.) † i Submission of a supplemental label use in Eucalyptus production | | | | | | | |
| | Section | on - II | | | | | |
| 1. Material This Product Will Be Packaged In: | | | | | | | |
| Child-Resistant Packaging Yes No No If "Yes" No. per | | oluble Pa Yea Yo | ckaging No. per | | 2. Type of | Metal Plastic Glass Paper | |
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| 3. Location of Net Contents Information 4. Size(s) R. Label Container | 1 etail Containe | 61 | | 5, Lo | Cation of La On Labe On Labe | ŧ | ons |
| 6. Manner in Which Lebel is Affixed to Product Litho Pape Sten | graph r gluad cilad | | Othe | <u> </u> | | | |
| | Section | on - IV | <u></u> | | | | |
| 1. Contact Point (Complete items directly below for identificat | ion of individ | ual to be | contacted, | if nec | essury, to p | rocess this | application.) |
| Dr. Russell P. Schneider Title Agricultural Regulation Director Telephone No. (Include Area Code) (202) 783-2460 | | | | | | | |
| Certific I cartify that the statements I have made on this form an I ecknowledge that any knowingly false or misleading etc both under applicable law. | d all attachm | nants the | reto are truc hable by fir | e, acc Ne or i | urate and co mprisonman | mplete. | 6. Eate Application Received (Stamped) |
| 2. Signature Sheele a. Seherette | 3. Title Managi | er, Re | gulator | -у А | ffairs | | ~ ^ \ |
| Sheila A. Schuette, Ph.D. | 5. Date | vil | 10,1 | 199 | 7 | | |



PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). (If not exempted by 40 CFR 152.81 (b) (4));
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable,

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brend name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agant residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions.". Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging. Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product,
- 4. Size(s) of Retail Container Specify tive net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which intel a affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-ton," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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United States Environmental Protection Agency Washington, DC 20460

SEPA Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address | | EPA File Symbol/Registration | n Number 524-475 |
|---|---|---|--|
| Monsanto Company 700 14th Street, N.W., S Washington, DC 20005 | Suite 1100 | Product Name Roundup Roundup | |
| | in the second | Date of Application Apr | il 10, 1997 |
| NOTE: If your product is a is labeled for the same uses, yo Exemption Statement (EPA For 1). This application is supported options are indicated, this approperties or effects of this of data that would be require product of identical or similar the date of apropval of this apertain to your application.) 2. I certify that, for each study study, X I am the original submit I have obtained the write 3. I certify that, for each study of study: | u do not need to submit rm 8570-27). I by all data submitted opplication is supported by product that is identical ed to be submitted if the ar composition and inter- application. (Check the cited in support of this eter*; or | or cited in the application. y all data in the Agency's is or substantially similar, an is application sought the in ided uses under the data re appropriate boxes, in item application for registration | In addition, if cite-all files that concern the addition of the types itial registration of a equirements in effect on s 2 and 3 below, that that is an exclusive use |
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| in my product (cit General Offer Sta | ted on the Pesticide Da e-all method or cite-all tement below.) | option under Selective Me | d (Selective method*). |
| Shela O. Scheelte General Offer to P persons, with regard | Name and Title Sheila A. Schue Manager, Regula ay: I hereby offer and ag to the approval of this ap | | gree 10, 1997 |
| gnature | Name and Title | Date | |

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Monsanto

Monsanto Company Suite 1100 700 34th Street, N.W. Washington, D.C. 20005

April 10, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention: Mr. Philip V. Errico

Acting Product Manager 25

Subject: Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Roundup®Pro Herbicide (EPA Reg. No. 524-475)

Submission of A Supplemental Label Use in Eucalyptus

Production

Dear Sir:

Monsanto is submitting supplemental labels for use of Roundup Ultra and Roundup Pro herbicides (EPA Reg. No. 524-475) prior to planting eucalyptus species. This use will occur primarily in Hawaii.

Five (5) copies of each of the proposed supplemental labels are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shula a. Semette

(314) 694-7248

214.

TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468



APR 2 | 1997

CERTIFIED LETTER

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W., Suite #1100 Washington, DC 20005

Dear Dr. Schuette:

SUBJECT: Advisory Labeling for the Use of Pesticides on Genetically Altered Crops

PRODUCT NAME: Roundup Ultra Herbicide EPA Registration No. 524-475

The Registration Division has registered several active ingredients for use on genetically altered crops both via engineering and crop selection. Currently, the labeling for these pesticides allow use only on a specified genetically altered variety of the crop. There may be cases where there are alternative crop varieties resistant to one of the active ingredients which is not specified on the label. Farmers who would use the herbicide on this alternative genetically altered crop that is not specifically allowed on the label would be subject to misuse and action by the Agency. Since such a use would not result in health or environmental concerns for the Agency, it would not be a good use of its scarce resources to enforce the prohibitory use statement.

, As more and more products are registered for use on genetically altered crops the above issue will no doubt become very common place. It is not in the best interest or the Agency's to allow companies to place prohibitory language on labels restricting use to a crop variety. After consulting with the Office of General Council, The Registration Division has decided that registrants, must use advisory language not prohibitory language. These advisory statements would allow the registrants to deal with their legitimate liability issues but not require the Agency to enforce labeling which do not deal with potential adverse effects to health or environment.



You are hereby notified that at the next printing of your labels for Roundup Üİtra Herbicide, EPA Registration No. 524-475 or within one year of notification you must revise your labeling, on products for shipment, so that prohibitions on use on crops for which the product is registered are made advisory in nature and not prohibitory.

The following is an example of advisory language that has been accepted by the Agency:

A SELECTIVE HERBICIDE FOR USE ONLY ON (LIST CROPS) TOLERANT TO THE ACTIVE INGREDIENT IN THIS PRODUCT. XYZ COMPANY RECOMMENDS USE ONLY ON SEED DESIGNATED AT QRS SEED OR WARRANTED BY XYZ COMPANY AS BEING RESISTANT TO ABC HERBICIDE.

Sincerely,

James A. Tompkins Acting Team Leader 25

Herbicide Branch

Registration Division (7505C)



篇 21 1997

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W. Suite #1100 Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Reduce Rates for Soybeans with Roundup Ready Gene)
EPA Registration No. 524-475
Your Application Dated March 3, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Acting Team Leader 25
Herbicide Branch
Registration Division (7505C)



SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR ROUNDUP® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup® Ultra herbicide, container labels and this supplement.



Under the Federal Insecticide.
Fungicide. and Rodonticide Act.
on amouded for the pesticide
registered units
EPA Reg. No. 524-425

*EPA Reg. No. 524-475

FOR POSTEMERGENCE APPLICATIONS TO SOYBEANS WITH THE ROUNDUP READY® GENE

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, (314) 694-4000.

Roundup® and Roundup Ready® Gene are registered trademarks of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

See "GENERAL INFORMATION" and "APPLICATION INSTRUCTIONS" sections of the label booklet for Roundup® Ultra herbicide for essential product performance information.

General Information

FOR POSTEMERGENCE APPLICATION ONLY ON SOYBEAN VARIETIES WHICH HAVE THE ROUNDUP READY® GENE.

 Applying this product to soybean varieties which are not designated as Roundup Ready® will result in severe crop injury and yield loss. Avoid contact with foliage, green stems, or fruit of crops, or any desirable plants

- which do not contain the Roundup Ready gene, sincsevere injury or destruction will result.
- Roundup Ready varieties must be purchased from an authorized seed supplier. Crop safety and week control performance are not warranted by Monsantwhen this product is used in conjunction with "brown bag or "bin run" soybean seed saved from previous year' production and replanted.

The Roundup Ready designation indicates that the soybea contains a patented gene which provides tolerance to Monsanto's Roundup brand herbicides. Information of Roundup Ready soybeans may be obtained from your sees supplier or Monsanto representative.

Application Instructions

This product may be applied postemergence to Roundul Ready soybeans from the cracking stage through the ful flowering stage.



Allow a minimum of 14 days between application and harvest of soybeans.

Maximum Allowable Yearly Rates

- Preplant: Maximum amount of this product which can be applied prior to crop emergence is 5 quarts/A.
- In-crop: Maximum combined total of single or multiple in-crop applications from cracking to flowering is 2 quarts/A.
- Preharvest: Maximum amount of this product that can be applied after loss of green color in soybean pods until 14 days before harvest is 1 quart/A.
- Cropping Season: Combined total per year for all applications may not exceed 8 quarts/A.

When applied as directed, this product will control labeled annual grasses and broadleaf weeds in Roundup Ready soybeans. Many perennial grasses and broadleaf weeds will be controlled or suppressed with one or more applications of this product.

There are no rotational crop restrictions following applications of this product.

For ground applications: Use the recommended rates of this product in 5 to 20 gallons of spray solution per acre as a broadcast spray. Carefully select proper nozzle and spray pressure to avoid spraying a fine mist. For best results with ground application equipment, use nozzles which provide a flat fan pattern. Check for even distribution of spray droplets.

For aerial applications: Use the recommended rates of this product in 3 to 15 gallons of spray solution per acre. Do not exceed 1 quart of this product per acre. DO NOT APPLY DURING LOW LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITIONS WHICH FAVOR DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

AERIAL APPLICATIONS ON ROUNDUP READY SOY-BEANS MAY BE MADE ONLY IN THE FOLLOWING STATES: ALABAMA, ARKANSAS, FLORIDA, GEORGIA, KANSAS, LOUISIANA, MISSISSIPPI, MISSOURI (BOOT-HEEL ONLY), NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE AND TEXAS.

ANNUAL WEED RATE TABLES

The following rate recommendations will provide control of labeled grasses and broadleaf weeds in conventional and no-till soybean production systems. Refer to the label booklet for rate recommendations for specific annual weeds.

Tank mixtures with other herbicides are not recommended due to potential for crop injury and/or weed antagonism and to rotational crop restrictions of the tank mix partner.

This product may be used up to 64 fluid ounces per acre in any single application for control of annual weeds, where heavy weed densities exist.

NOTE: In no-till and stale seedbed systems, always burn down existing weeds before soybeans emerge. Apply a preplant burn-down treatment of 16-64 fluid ounces per acre of this product.

MIDWEST RECOMMENDATIONS

Narrow row or drilled soybeans: A single in-crop application of this product will provide effective control of labeled weeds.

| Weed Height | Rate |
|-------------|-----------|
| (inches) | (fl oz/A) |
| 3-6 | 24 |
| 6-12 | 32 |
| 12-18 | 48 |

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fluid ounces per acre may be necessary to control late flushes of weeds.

Wide row soybeans: A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

Initial Treatment

| Weed Height | Rate |
|-------------|-----------|
| (inches) | (fl.oz/A) |
| 3-6 | - 24 |
| 6-12 | 32 |
| 12-18 | 48 |

Sequential Application*

| Weed Height | Rate |
|-----------------|-----------|
| <u>(inches)</u> | (fl oz/A) |
| 1-3 | 16 |
| 3-6 | 24 |
| 6-12 | 32 |

*Combined total application in crop not to exceed 64 fluid ounces per acre.

For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:

| Weed Height | Rate |
|-----------------|-----------|
| <u>(inches)</u> | (fl oz/A) |
| 1-3 | 24 |
| 3.6 | 32 |
| 6-12 | 48 |

Giant ragweed: Apply 32 fl oz/A when the weed is 8-12" tall to avoid the need for sequential application.

Some weeds, such as black nightshade, woolly cupgrass, shattercane, wild proso millet, burcucumber, and giant ragweed, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 64 fluid ounces per acre.



MID-ATLANTIC/SOUTHEAST RECOMMENDATIONS

Narrow row or drilled soybeans: A single in-crop application of this product will provide effective control of labeled weeds.

| Weed Height | Rate |
|-----------------|-----------|
| <u>(inches)</u> | (fl oz/A) |
| 3-6 | 24 |
| 6-12 | 32 |
| 12-18 | 48 |

Under adverse growing conditions such as drought, hail, wind damage or a poor soybean stand that slows or delays canopy closure, a sequential application of this product at 16-32 fluid ounces per acre may be necessary to control late flushes of weeds.

Wide row soybeans: A single in-crop application of this product will provide effective control of initial stand of labeled weeds. If new flushes of weeds occur, they can be controlled by sequential applications of this product.

Initial Treatment

| Weed Height | Rate |
|-----------------|------------------------|
| <u>(inches)</u> | (fl oz/A) |
| 3-6 | 24 |
| ' 6-12 | 32 |
| 12-18 | 48 |
| 1 1 | Sequential Application |

Sequential Application*

| Weed Height | Rate |
|-------------|-----------|
| (inches) | (fl oz/A) |
| 1-3 | 16 |
| 3-6 | 24 |
| 6-12 | 32 |

^{*}Combined total application in-crop not to exceed 64 fluid ounces per acre.

Hemp sesbania: Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 ft oz/A at 4-6" tall; 48 ft oz/A at 6-8" tall.

For morningglory, black nightshade, groundcherry, and Pennsylvania smartweed apply:

| Weed Height | Rate |
|-----------------|------------------|
| <u>(inches)</u> | <u>(fl oz/A)</u> |
| 1-3. | 24 |
| 3-6 | 32 |
| 6-12 | 48 |

Some weeds, such as black nightshade, broadleaf signalgrass, Texas panicum, burcucumber, and sicklepod, with multiple germination times may require a sequential application of this product. Suppressed or stunted weeds may also require sequential applications. Sequential applications should be made after some regrowth has occurred. Use a minimum of 16 fluid ounces of this product per acre for sequential applications. The combined total of all in-crop postemergence treatments must not exceed 64 fluid ounces per acre.

DELTA/MID-SOUTH RECOMMENDATIONS

Narrow row or drilled soybeans: An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

Wide row soybeans: An in-crop application of this product will provide effective control of initial stand of labeled weeds. A sequential application will be required to control new flushes of weeds.

Initial Treatment

| Weed Height | Rate |
|-----------------|----------------------|
| <u>(inches)</u> | . (fl oz/ <u>A</u>) |
| 1-3 | 24 |
| 3-6 | 32 |
| 6-12 | 48 |

Sequential Application*

| Weed Height | Rate |
|-------------|-----------|
| (inches) | (fl oz/A) |
| 1-3 | 16 |
| 3-6 | 24 |
| 6-12 | 32 |

^{*}Combined total application in-crop not to exceed 64 fluid ounces per acre.

Hemp sesbania: Apply 24 fl oz/A at 0-2" tall; 32 fl oz/A at 2-4" tall; 40 fl oz/A at 4-6" tall; 48 fl oz/A at 6-8" tall.

PERENNIAL WEEDS RATE RECOMMENDATIONS

A 32 to 64 fluid ounces per acre rate (single or multiple applications) of this product will control or suppress perennial weeds such as: bermudagrass, Canada thistle, common milkweed, field bindweed, hemp dogbane, horsenettle. nutsedge, quackgrass, johnsongrass, redvine, trumpetcreeper, swamp smartweed, and wirestem muhly. For additional information on perennial weeds, see the "PERENNIAL WEED RATE TABLE" of the label booklet for Roundup Ultra herbicide. For some perennial species, repeat application may be required to eliminate crop competition throughout the growing season.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

April 1, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Submission of Final Printed Labels: Supplemental Label for Postemergence Application to Soybeans with the Roundup®

Ready Gene

Dear Sir:

On March 3, 1997, Monsanto notified the Agency of minor changes to the supplemental label for use of Roundup Ultra herbicide in Roundup Ready soybeans. At this time, Monsanto is submitting final printed labels of this supplemental label for your files.

Enclosed are five (5) copies of the label (version 21137V4-12/53).

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely.

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

(314) 694-7248



| Discount in the second in the | reina da | Form Appre | ound OMP No. 207 | 0-0080. Approval expires 05-31-5 |
|---|--|--|---|--|
| SEPA Environmenta Wash | | Registrat Amendm Other | ion OPP Identifier Number | |
| | Application for | Pesticide - Sect | ion I | |
| 1. Company/Product Number 524-475 | | 2. EPA Product Mana Philip V. Er | - | 3. Proposed Classification |
| 4. Company/Product (Name) Roundup® Ultra Herbicide | | PM# 25 | | None Restricted |
| 5. Name and Address of Applicant (Include ZIP C Monsanto Company 700 14th Street N.W., St Washington, DC 20005 | | 1 ' | s similar or identic | ce with FIFRA Section 3(c)(3) all in composition and labeling |
| Check if this is a new address | | Product Name _ | | |
| | Sec | tion - II | | |
| Amendment - Explain below. Resubmission in response to Agency lette Notification - Explain below. | er dated | X Final printed Agancy lett "Me Too" A Other - Expi | application. | to |
| Submission of final p application to soybea | ns with the Rou | ndup Ready Gen | label for pos | stemergence |
| | Sec | tion - III | | <u> </u> |
| 1. Material This Product Will Be Packaged In: Child-Resistant Packaging Yes No Certification must be submitted Unit Packaging Web | No. per If "Ye | Yes No S" No. per age wgt | 2. Type of C | Container Metal Plestic Glass Paper Other (Specify) |
| 3. Location of Net Contents Information Label Container | 4. Size(s) Retail Conte | ainer | 5. Location of Label On Label On Labeli | l Directions |
| 5. Manner in Wifich Label is Affixed to Product | Lithograph Paper glued Stencifed | Othe | · | |
| | · · · · · · · · · · · · · · · · · · · | tion - IV | | |
| 1. Contact Point IComplete items directly below Name Dr. Russell P. Schneider | Title | vidual to be contected, Agricultural Re Director | | cess this application.) Telephone No. (Include Area Code) (202) 783-2460 |

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or

3. Title

5. Date

both under applicable law.

生.

2. Signature

Manager, Regulatory Affairs

april 1, 1997

6. Date Application

(Stamped)

Received



PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to everage 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Brench, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

<u>INSTRUCTIONS:</u> This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exampted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch-paper for submission or a mockup of the proposed label, if prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block Al- Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency latter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, past or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which laber is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," registration, etc.

1-5. Self-explanatory.

6. EPA Use Only

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 3, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

NOTIFICATION: Supplemental Label for Postemergence Application-to-Soybean Varieties with the Roundup® Ready

Gene

Dear Sir.

On October 23, 1996, the Agency approved a revised supplemental label for applications of Roundup Ultra herbicide to Roundup Ready soybeans. Changes to that label included (1) revision of the statements in the General Information section according to an EPA request, (2) removal of the restriction against feeding or grazing treated soybean forage, (3) increasing the maximum in-crop application use rate from 2 to 3 quarts per acre, (4) expanding the list of states for which aerial applications can be made and (5) various changes to the weed control recommendations (weed heights, weed species, etc.).

At this time, Monsanto is notifying the Agency that we are changing the maximum in-crop use rate back to 2 quarts per acre. The 3 quart per acre label will be used on a small scale to generate data which demonstrates that Roundup Ready soybeans are tolerant to Roundup Ultra herbicide at this rate. The 2 quart per acre label enclosed here will be used for general distribution to growers until the necessary plant safety data are obtained.





Roundup® Ultra Herbicide March 3, 1997 Page 2

The enclosed label is identical to that approved on October 23, 1996, except that the maximum in-crop application rate has been changed back to 2 quarts per acre (64 fluid ounces per acre). Three (3) copies of the supplemental label are enclosed for your files. An application for Pesticide Amendment is also enclosed.

If you have any questions regarding this notification, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shela a. Schuette

(314) 694-7248

cc: R.P. Schneider

E.M. Johnson

D.M. Fee-White



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| Washington, DC 20460 X Other | | | | | | 252231 | | |
| | A _l | pplication | for Pestic | ide - Sec | tion I | | | · |
| 1. Company/Product Number | | · · · · · · · · · · · · · · · · · · · | | Product Man | - | <u>"</u> | 3. Pro | posed Classification |
| | 524-475 | | Phi | lip V. E | rrico | | ┤ [□ | None Restricted |
| 4. Company/Product (Name) Roundup® | Ultra Herbicid | le | PM# 2 | 5 | | | | |
| 5. Name and Address of App | licent (Include ZIP Code, | , | 6. Ex | edited Rev | riew. In | accordant | e with | FIFRA Section 3(c)(3) |
| Monsanto Compan | | | | my product | is similai | r or identic | al in cor | nposition and labeling |
| 700 14th Street | | .100 | to: | Dog No | | | | • |
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| Amendment - Explain | below. | | | Final printe | d labels i | n response t | to a | |
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| planation: Use addition | al page(s) if necessary. | (For section I a | ind Section II.) | | | | | |
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| Supplemental la | | ergence ap | oplication | i to soyb | ean va | arieties | with | |
| the Roundup® Re | eauy Gene | | | | | | | |
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| | | | Section - | III | | | | |
| 1. Material This Product Will | Be Packaged In: | · | | | | | | |
| Child-Resistant Packaging | Unit Packaging | | Water Soluble | Packaging | 2 | 2. Type of C | ontainer | |
| Yes* | Yes | | Yes | | - | | Metal Plastic | |
| No No | . No | | No No | | | | Glass | • |
| * Certification must | If "Yes" Unit Packaging wgt. | No. per container | lf "Yes" Package wgt | | | | nacify) | |
| be submitted | 1 | } | | 1 | | | | |
| Location of Net Contents | Information 4 | . Size(s) Retail | Container | | 5. Loca | tion of Labe On Label | Directio | UB |
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| ļ <u>.</u> | | | Section - | <u> </u> | | | | |
| 1. Contact Point Complete | items directly below for | identification d | of individual to | be contacted, | , if neces: | sary, to pro | cess this | application.) |
| Dr. Russell P. | Schneider | Ti | d• Agricu Direct | | egulat | | - | n No. (Include Area Code) 783-2460 |
| | | Certification | ın | | | | | 6. Date Application |
| | ments I have made on th | is form and all | attachments t | | | | | Received |
| I acknowledge that an both under applicable I | y knowingly false or mis law. | leading statem | ant may be pu | nishable by fi | ne orimp | risonment o | • | (Stamped) |
| 2. Signature | | | | | | | | |
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| 4. Typed Name Sheila | A. Schuette, P | h.D. 5. | Date | _ | | | | (ti |
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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, OC 20450.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Section I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a
 basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or parson and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purposals) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Sizels) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Microsa in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, *me-too,* reregistration, etc.

1-5 Self-explanatory.

6. EPA Use Only.



United States Environmental Protection Agency Washington, DC 20460

SEPA Certification with Respect to Citation of Data

Form Approved OMB Na. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address | <u>-</u> | EPA File Symbol/Registration | |
|--|--|---|---|
| Monsanto Company | | | 524-475 |
| 700 14th Street, N.W., So Washington, DC 20005 | | Product Name Roundur | ∞ Ultra Herbicide |
| | | Date of Application Mano | ch 3, 1997 |
| NOTE: If your product is a is labeled for the same uses, yo Exemption Statement (EPA Fo | u do not need to submit | other EPA-registered produ this form. You must subm | ict that you purchase, and it the Formulator's |
| This application is supported options are indicated, this ap properties or effects of this of data that would be require product of identical or similar the date of approprial of this apertain to your application.) | oplication is supported by product that is identical ed to be submitted if this ar composition and intendeplication. (Check the second | all data in the Agency's fill or substantially similar, and application sought the inited ded uses under the data required | es that concern the that is one of the types ial registration of a quirements in effect on |
| I certify that, for each study study, | cited in support of this a | pplication for registration t | hat is an exclusive use |
| I am the original submit | tter*; or | | |
| I have obtained the writ | ten permission of the ori | ginal data submitter to cite | that study* |
| I certify that, for each study of study: | ited in support of this ap | oplication for registration th | nat is not an exclusive use |
| a. X I am the original dat | a submitter*; or | | |
| I have obtained the v | vritten permission of the | original data submitter to | cite that study*; or |
| 3(c)(1)(D) and 3(c)(2 and (b) Commence n | offered to: (a) Pay comp (c)(D) of the Federal Inse- egotiations to determine A and the amount and to | have submitted data I have bensation for those data in cticide, Fungicide and Rode which data are subject to t rms of compensation due, | accordance with section enticide Act (FIFRA); he compensation |
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| Those companies | that have submitted the | studies which I have cited | (Selective method*). |
| A Data Matrix identifying to cite-all method.) | these studies is attached. | (Note: a Data Matrix is | not required under the |
| Shula a Schuette | Name and Title Sheila A. Schuet Manager, Regulat | te, Ph.D. pry Affairs | met 3, 1997 |
| General Offer to P persons, with regard | ay: I hereby offer and ago to the approval of this app | ee to pay compensation to o | ther source |
| ignatura | Name and Title | Date | |



APR 21 1997

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Dr. Shelia A. Schuette Monsanto Company 700 14 th Street, N.W. Suite #1100 Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Pro Herbicde (Amended Booklet) EPA Registration No. 524-475 Your Application Dated March 3, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable provided that you:

- 1. Submit and/or cite all data required for registration/ reregistation of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

UKW

James A. Tompkins Acting Team Leader 25 Herbicide Branch Registration Division (7505C)



Roundup® PRO Herbicide by Monsanto

The complete broad_spectrum postemergence professional herbicide for industrial, turf and ornamental weed control.

Complete Directions for Use

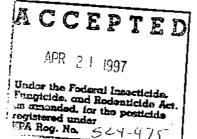
EPA Reg. No. 524-475

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

@Roundup@ is a registered trademark of Monsanto Company.

1996-1

21136T3-1/53



.97 MAR -6 P1 56



Read the entire label before using this product.

Use only according to label instructions.

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

REFORMULATION IS PROHIBITED. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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1.0 INGREDIENTS

ACTIVE INGREDIENT:

*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE.

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

4-(314)-694-4000

3.0 PRECAUTIONARY STATEMENTS

3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children.

CAUTION!

CAUSES EYE IRRITATION.

Avoid contact with eyes or clothing.

. FIRST AID: IF IN EYES, flush with plenty of water. Get medical attention if irritation persists.



DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear long-sleeved shirt and long pants, shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment) (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations:

Users should:

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- Wash hands before eating, drinking, chewing gum, using tobacco_t or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

3.2 Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

3.3 Physical or Chemical Hazards

Spray solutions of this product should be mixed, stored and applied using only stainless steel, aluminum, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulations.



Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal perotective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: coveralls, waterproof gloves, shoes plus socks.

Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (40 CFR Part 170) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

4.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

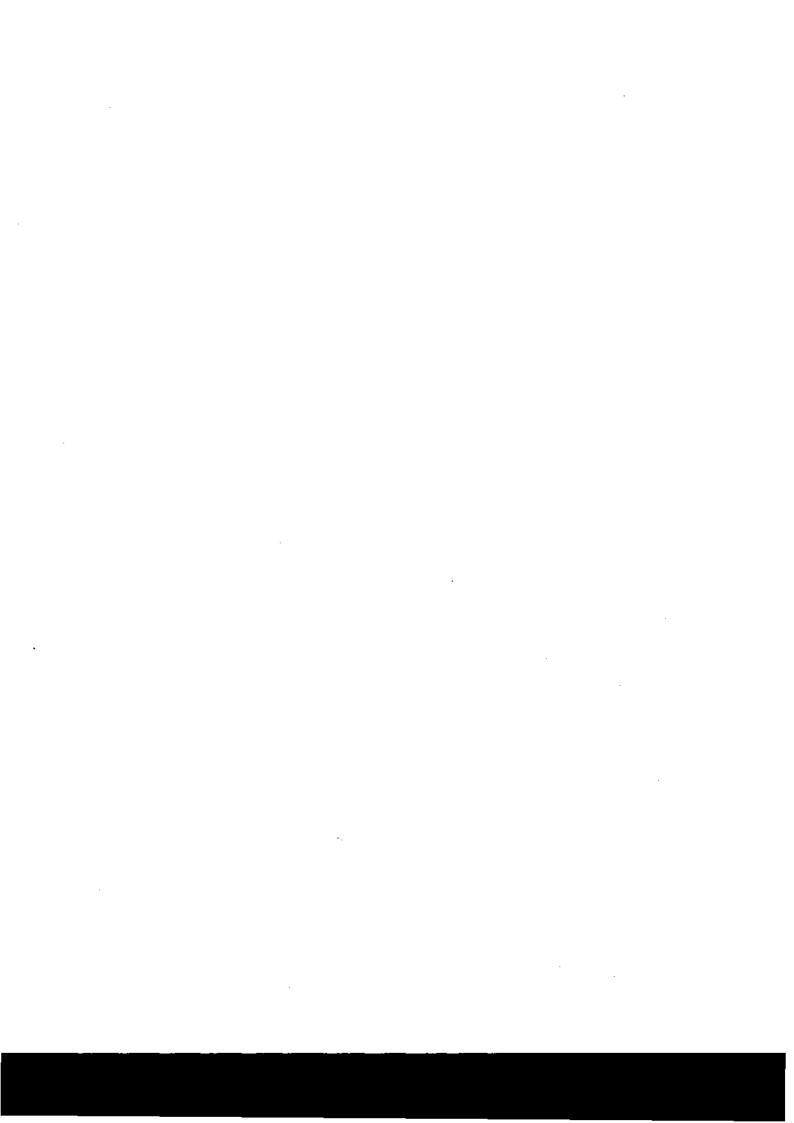
See container label for STORAGE AND DISPOSAL instructions.

5.0 GENERAL INFORMATION

Product Description: This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing 14.5 percent surfactant and no additional surfactant is needed or recommended.

Environmental Fate: When this product comes in contact with the soil it is bound to soil particles. When used in accordance with label directions, once this product is bound it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. The strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering ground water. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil microflora.





Time to Symptoms: This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

Mode of Action in Plants: The active ingredient in this product inhibits an enzyme found only in plants that is essential to formation of specific amino acids.

Cultural Considerations: Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed, or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfastness: Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control.

No Soil Activity: Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide.

Volatility: Roundup Pro is non-volatile. Therefore, it cannot move as a vapor after application to affect nearby vegetation.

<u>Toxicology</u>: Exposure to workers and other applicators generally is expected to pose minimal risks based on results of short-term toxicity studies. Glyphosate has been thoroughly tested and determined not to cause cancer or other adverse long-term health effects.

Tank Mixing: This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

Annual Maximum Use Rate: The combined total of all treatments must not exceed 10.6 quarts of this product per acre per year.

ATTENTION

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.



Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. The likelihood of injury occurring from the use of this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

6.0 MIXING

Clean sprayer parts immediately after using this product by thoroughly flushing with water.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS VISIBLY MUDDY WATER OR WATER FROM PONDS AND DITCHES THAT IS NOT CLEAR.

6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

6.2 Tank Mixing Procedure

When tank mixing, read and carefully observe <u>label directions</u>the <u>label claims</u>, cautionary statements and all information on the labels of all products used. Add the tank₂mix product to the tank as directed by the label. Maintain agitation and add the recommended amount of this product.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation may be required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers should be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

Refer to the "Tank Mixing" section of "GENERAL INFORMATION" for additional precautions.

6.3 Mixing for Hand-held Sprayers

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Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table:

Spray Solution

Amount of Roundup® PRO

| Desired Volume | 1/2% | 1% | 1 1/2% | 2% | 5% | 10% |
|-------------------|--------|----------|-----------|----------|----------|--------|
| 1 Gal | 2/3 oz | 1-1/3 oz | 2 oz | 2-2/3 oz | 6-1/2 oz | 13 oz |
| 25 Gal | 1 pt | 1 qt | 1-1/2 qt | 2 qt | 5 qt | 10 qt |
| 100 Gai | 2 qt | 1 gal | 1-1/2 gal | 2 gal | 5 gal | 10 gal |

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

6.4 Colorants or Dyes

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilution. Use colorants or dyes according to the manufacturer's recommendations.

7.0 APPLICATION EQUIPMENT AND TECHNIQUES

Do not apply this product through any type of irrigation system.

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

7.1 Aerial Equipment

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.

FOR AERIAL APPLICATION IN CALIFORNIA, REFER TO THE FEDERAL SUPPLEMENTAL LABEL FOR AERIAL APPLICATIONS IN THAT STATE FOR SPECIFIC INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS. This product plus Oust™, Banvel™ or 2,4-D tank mixtures may not be applied by air in California.

AVOID DRIFT--DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Avoid direct application to any body of water.

Use the recommended rates of this herbicide in 3 to 25 gallons of water per acre.

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Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

Drift control additives may be used. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven or overlapped application, use appropriate marking devices.

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear are most susceptible.

7.2 Ground Broadcast Equipment

Use the recommended rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

7.3 Hand-Held and High-Volume Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do not spray to the point of runoff, Use coarse sprays only.

For control of weeds listed in the "Annual Weeds" section of "WEEDS CONTROLLED", apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds.

For best results, use a 2 percent solution on harder-to-control perennials, such as bermudagrass, dock, field bindweed, hemp dogbane, milkweed and Canada thistle.

For low volume directed spray applications, use a 5 to 10 percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees. Spray coverage should be uniform with at least 50 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts.

7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.



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A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.

A wiper or sponge applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.

Applicators used above desired vegetation should be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam, or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

Shielded and hooded applicators

Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.

Wiper applicators and sponge bars

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use of leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

For Rope or Sponge Wick Applicators—Mix 1-gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this section. Solutions ranging from 33 to 75 percent of this product in water may be used.

For Porous-Plastic Applicators and pressure-feed systems--Solutions ranging from 33 to 100 percent of this product in water may be used.

When applied as recommended, this product CONTROLS the following weeds:

Corn, volunteer Panicum, Texas Rye, common

Sicklepod Spanishneedles Starbur, bristly

96-1/bc/110795.re1/02-17-97

300

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Shattercane

When applied as recommended, this product SUPPRESSES the following weeds:

Beggarweed, Florida Bermudagrass Dogbane, hemp Dogfennel Guineagrass Johnsongrass

Milkweed Nightshade, silverleaf Pigweed, redroot Ragweed, common Ragweed, giant Smutgrass Sunflower Thistle, Canada Thistle, musk

Vaseygrass Velvetleaf

7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. It may be used as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this product with the <u>undiluted</u> concentrate of other products when using injection systems <u>unless specifically recommended</u>.

7.6 CDA Equipment

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The rate of this product applied per acre by controlled droplet application equipment (CDA) equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre.

CDA equipment produces a spray pattern which is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

8.0 SITE AND USE RECOMMENDATIONS

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds fisted in the annual, perennial and woody brush tables. Refer also to the "SELECTIVE EQUIPMENT" section.

8.1 Cut Stumps

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species, some of which are listed below. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface.

Apply a 50 to 100 percent solution of this product to the freshly-cut surface immediately immediately immediately after cutting. Delays in application may result in reduced performance. For best results, applications should be made during periods of active growth and full leaf expansion.

Alder Eucalyptus Madrone Oak Reed, giant Saltcedar Sweetgum Tan oak Willow



DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP. INJURY RESULTING FROM ROOT GRAFTING IS LIKELY TO OCCUR IN ADJACENT WOODY BRUSH OR TREES.

8.2 General Noncrop Areas and Industrial Sites

Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, utility substations, warehouse areas, other public areas, and similar industrial and noncrop sites.

General weed control, Trim-and-edge and Bare_ground

This product may be used in general noncrop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in noncrop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turigrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

This product may be tank mixed with the following products. Refer to these products' labels for approved noncrop sites and application rates.

BANVEL™
BARRICADE™ 65WG
DIURON
ENDURANCE™
ESCORT™
KARMEX™ DF
KROVAR™ I DF

ARSENAL™

KROVAR II

OUST™ <u>PENDULUM™ 3.3 EC</u> PENDULUM™ WDG

PRINCEPTM CALIBERTM 90

SIMAZINE 4L
PLATEAU™
SIMAZINE 80W
PRINCEP™ DF
PRINCEP™ LIQUID

RONSTAR™ 50WP <u>SAHARA™</u> SIMAZINE

SURFLAN™ 75W SURFLAN AS SURFLAN™ TELAR™

VANQUISH™ 2,4-D

Oust, Banvel and 2,4-D tank mixtures may not be applied by air in California.

This product is not registered for use with Arsenal or Escort in Galifornia.

When applied as a tank mixture for bare ground, this product provides control of the emerged annual weeds and control or partial control of emerged perennial weeds, woody brush and trees.

For control or partial control of the following perennial weeds, apply 1 to 2 quarts of this product plus 2 to 4 ounces of Oust per acre.

Bahiagrass Bermudagrass Broomsedge

Johnsongrass Poorjoe Quackgrass

30%

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<u>Dallisgrass</u> Dock, curly Dogfennel Fescue, tall

Trumpetereepeer Vaseygrass Vervain, blue

Chemical mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in 10 to 20_40 gallons of spray solution per acre.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

Chemical mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

Dormant turfgrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the "ROADSIDES" section of this label, which gives rates for dormant bermudagrass and bahiagrass treatments. Treat only when turf is dormant and prior to spring greenup.

Apply 8 to 64 fluid ounces of this product per acre. Apply the recommended rates in 10 to 40 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained areas, such as golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for domant bermudagrass and bahiagrass treatments.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. DO NOT apply more than 16 fluid ounces of this product per acre in highly maintained turigrass areas. DO NOT apply tank mixtures of this product plus OUST in highly maintained turigrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

Turfgrass renovation, seed, or sod production

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses such as



bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turigrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

8.3 Habitat Management

Habitat restoration and management

This product may be used to control exotic and other undesirable vegetation in habitat management and natural areas, including rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad_spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

Wildlife food plots

This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after application before tillage to allow translocation into underground plant parts.

8.4 Injection and Frill (Woody Brush and Trees)

This product may be used to control woody brush and trees by injection or frill applications. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100% percent concentration of this product. For best results, application should be made during periods of active growth and after full leaf expansion. This product will control many species, some of which are listed below:

Control
Oak
Poplar
Sweetgum
Sycamore

Partial eControl Black gum Dogwood Hickory Maple, red

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8.5 Ornamentals and Plant Nurseries, Christmas Trees

Post-directed, Trim-and-edge

in air in

This product may be used as a post-directed spray around established woody omamental species such as arborvitae, azalea, boxwood, crabapple, euonymus, fir, douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, privet, pine, spruce and yew. This product may also be used to trim and edge around trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT RECOMMENDED FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

Site preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

Greenhouse/Shadehouse

This product may be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

8.6 Parks, Recreational and Residential Areas

This product may be used in parks, recreational and residential areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation. This product may be used to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to park and recreational areas.

8.7 Railroads

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to railroads.

Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sightsite at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used. This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments:

ARSENAL

KROVAR I DF

205



BANVEL KROVAR II
DIURON OUST
ESCORT SAHARA™
GARLON™ 3A SPIKE™
GARLON 4 TELAR
HYVAR™ X VANQUISH™
2.4-D

This product is not registered for use with Arsenal, Escort or Tordon in California.

Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 3/4 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be mixed with the following products for enhanced control of woody brush and trees:

ARSENAL ESCORT GARLON 3A GARLON 4 TORDON™ K

This product is not registered for use with Arsenal, Escort or Tordon in California.

Bermudagrass release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass Bluestem, silver Fescue, tall

Johnsongrass Trumpetcreeper Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass
Blackberry
Bluestem, silver
Broomsedge
<u>Dallisgrass</u>
Dewberry
Dock, curly
Dogfennel

Fescue, tall
Johnsongrass
Poorjoe
Raspberry
Trumpetcreeper
Vaseygrass
Vervain, blue

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Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not recommended, since severe injury may occur.

8.8 Roadsides

All of the instructions in the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section apply to roadsides.

Shoulder treatments

This product may be used on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

Guardrails and other obstacles to mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank mixtures

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This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments:

SIMAZINE 4L BANVEL DIURON SIMAZINE 80W **ENDURANCE RONSTAR 50WP ESCORT** SAHARA KROVAR I DF SIMAZINE **KROVAR II** SURFLANIM 75W **OUST SURFLAN AS** PENDULUM 3.3 EC SURFLAN PENDULUM WDG TELAR PRINCEPIM CALIBERIM 90 **VANQUISH** PRINCEP DF 2.4-D PRINCEP LIQUID

See the "GENERAL NONCROP AREAS AND INDUSTRIAL SITES" section of this label for general instructions for tank mixing.

Release of Bermudagrass or Bahiagrass

Dormant applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Oust for residual control. Tank mixtures of this product with Oust may delay greenup.



For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4 to 6-leaf stage.

Apply 8 to 64 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Oust. Apply the recommended rates in 10 to 40 25 gallons of water per acre. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Oust per acre on bermudagrass and no more than 0.5 ounce of Oust per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product in 10 to 40.25 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

| Bahiagrass | |
|-------------------|--|
| Bluestern, silver | |
| Fescue tall | |

Johnsongrass Trumpetcreeper Vaseygrass

This product may be tank-mixed with Oust. If tank-mixed, use no more than 1 to 2 pints of this product with 1 to 2 ounces of Oust per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

| Bahiagrass |
|--------------------|
| Bluestem, silver |
| Broomsedge |
| <u>Dallisgrass</u> |
| Dock, curly |
| Dogfennel |
| Fescue tail |

Johnsongrass Poorjoe Trumpetcreeper

i rumpetcreept Vaseygrass Vervain, blue

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not recommended, since severe injury may occur.

Actively growing bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product in 10 to 40 25 gallons of water per acre. Apply 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

A tank mixture of this product plus Oust may be used. Apply 6 fluid ounces of this product plus 0.25 ounce of Oust per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.



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9.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been moved, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for recommended rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 5 to 10 quarts per acre for enhanced results.

9.1 Annual Weeds

Use 1 quartiper acre if weeds are less than 6 inches in height or runner length and 1.5 quarts to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spray-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 1 to 2 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

WEED SPECIES

Annoda, spurred

Barley*

Bamyardgrass*

Bittercress*

Black nightshade*

Bluegrass, annual*

Bluegrass, bulbous*

Brassica Bassia, fivehook

Brome, downy*

Brome, Japanese*

Browntop panicum*

Buttercup*

Carolina foxtail*

Carolina geranium

Cheat Cheatgrass

Chervil*

Chickweed*

Cocklebur*

Copperleaf, hophombeam

Copperleaf, Virginia

Corn*

Corn speedwell*

Crabgrass*

Dwarfdandelion*

Eastern mannagrass*

Eclipta*

Fall panicum*

Falsedandelion*

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Field pennycress:

Filarees to a file for the file abane, annual* to the file.

Fleabane, hairy (Conyza bonanensis)*

Fleabane, rough*

Florida pusley

Foxtail*

Goatgrass, jointed*

Goosegrass

Grain sorghum (milo)*

Groundsel, common*

Hemp sesbania

Henbit

Horseweed/Marestail (Conyza canadensis)

Itchgrass*

Johnsongrass, seedling

Junglerice

Knotweed

Kochia

Lambsquarters*

Little barley*

London rocket*

Mayweed

Medusahead*

Morningglory (Ipomoea spp.)

Mustard, blue*

Mustard, tansy!

Mustard, tumble*

Mustard, wild*

Oats

Pigweed*

Plains/Tickseed coreopsis*

Prickly lettuce*

Purslane, common

Ragweed, common*

Ragweed, giant

Red rice

Russian thistle

Rye*

Ryegrass*

Safidbur, field*

Shattercane*

Shepherdspurse*

Sicklepod

Signalgrass, broadleaf*

Smartweed, ladysthumb*

Smartweed, Pennsylvania*

Sowthistle, annual

Spanishneedles

Speedwell, purslane*

Sprangletop*

Spurge, annual



Spurge, prostrate* Spurge, spotted* Spurry, umbrella* Starthistle, yellow Stinkgrass* Sunflower* Teaweed/ Prickly sida Texas panicum* Velvetleaf Virginia copperleaf Virginia pepperweed* Wheat* Wild oats* Witchgrass* Woolly cupgrass* Yellow rocket

*When using field broadcast equipment (aerial applications or boom sprayers using flat fan nozzles) these species will be controlled or partially controlled using 1 pint of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

9.2 Perennial Weeds

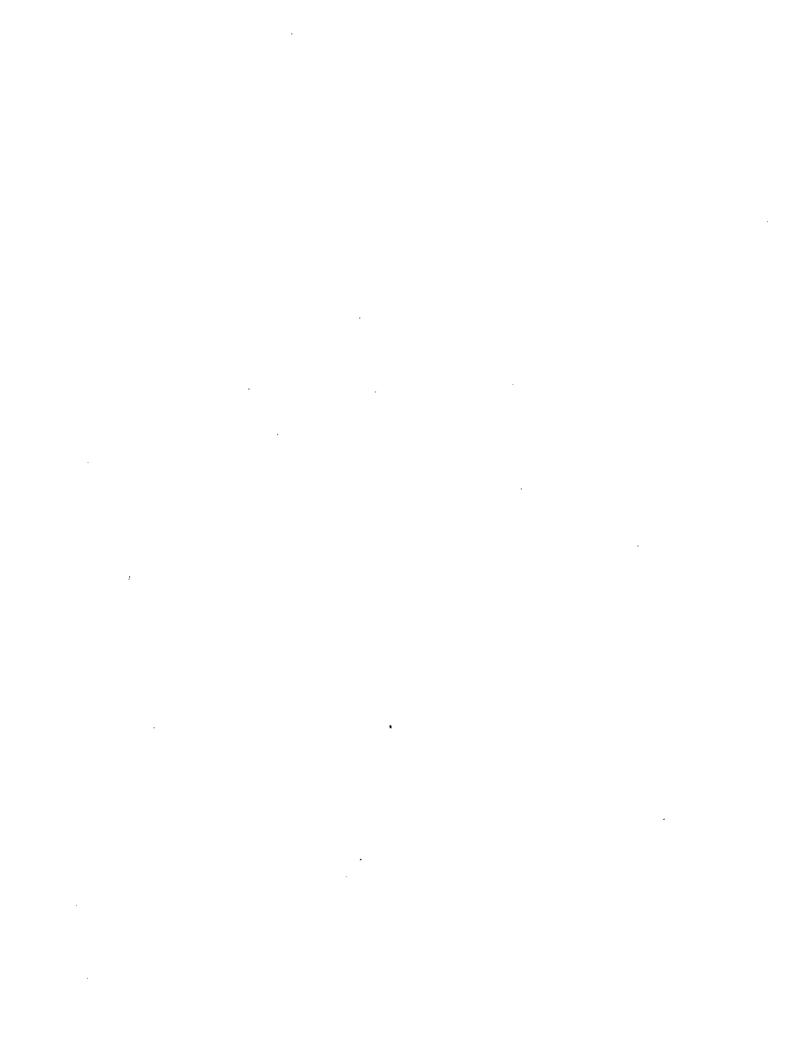
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Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (seedhead initiation in grasses and bud formation in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the recommended range.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed spot treatments, apply a 5 to 10 percent solution of this product.

Allow 7 or more days after application before tillage.

| Weed Species | Rate (QT/A) | Hand-Held % Solution | |
|-----------------------------------|----------------|-------------------------|---|
| | | | |
| Alfalfa* | 1 | 2 | |
| Alligatorweed* | . 4 | 1.5 | |
| Anise (fennet) | - <u>2-4</u> · | 1-2 | |
| Bahiagrass | 3-5 | 2 | • |
| Bentgrass* | 1.5 | 2 | |
| Bermudagrass | 5 | 2 | |
| Bermudagrass, water (knotgrass)** | 1.5 | 2 | |
| Bindweed, field | 4-5 | 2 | |
| Bluegrass, Kentucky | 2 | 2 | |
| Blueweed, Texas | 4-5 | 2 | |
| Brackenfern | 3-4 | 1-1.5 | |
| Bromegrass, smooth | 2 | 2 . | |
| Bursage, woolly-leaf | | 2 | |
| | | | - |



| Cananiarana road | 2-3 | 2 |
|---------------------------|--------------|-------------|
| Canarygrass, reed Cattail | 3-5 | 2 |
| Clover; red, white | 3-5 | 2 |
| | 3-5 | 2 . |
| Cogongrass | 3-5 | 2 |
| Dallisgrass | | |
| Dandelion | 3-5 | 2 |
| Dock, curly | 3-5 | 2 |
| Dogbane, hemp | 4 | 2 |
| Fescue (except tall) | 3-5 | 2 |
| Fescue, tall | 1-3 | 2 |
| German ivy | 2-4 | <u>1-2</u> |
| Guineagrass | 3 | 1 |
| Horsenettie | 3-5 | 2 |
| Horseradish | 4 | 2 |
| Iceplant | 2 | 1.5-2 |
| Jerusalem artichoke | 3-5 | 2 |
| Johnsongrass | 2-3 | 1 |
| Kikuyugrass | 2-3 | 2 |
| Knapweed | 4 | 2 |
| Lantana | | 1-1.25 |
| Lespedeza | 3-5 | 2 |
| Milkweed, common | 3 | 2 |
| Muhly, wirestem | 2 | 2 |
| Mullein, common | 3-5 | 2 |
| Napiergrass | 3-5 | 2 |
| Nightshade, silverleaf | 2 | 2 |
| | 3 | 1-2 |
| Nutsedge; purple, yellow | 2 | 2 |
| Orchardgrass | 2 3-5 | 1.5-2 |
| Pampasgrass | 3-5 3-5 | |
| Paragrass | | 2 2 |
| Pepperweed, perennial | 4 | |
| Phragmites* | 3-5 | 1-2 |
| Poison hemlock | <u> 2-4</u> | 1-2 |
| Quackgrass | 2-3 | 2 |
| Redvine* | 2 | 2 |
| Reed, giant | <u> </u> | 2 |
| Ryegrass, perennial | 2-3 | 1 |
| Smartweed, swamp | 3-5 | 2 2 2 |
| Spurge, leafy* | | 2 |
| Sweet potato, wild* | | |
| Thistle, artichoke | - <u>2-3</u> | <u>1-</u> 2 |
| Thistle, Canada | 2-3 | 2 |
| Timothy | 2-3 | 2 |
| Torpedograss* | 4-5 | 2 |
| Trumpetcreeper* | 2 <u>2·3</u> | 2 |
| Vaseygrass | 3-5 | 2 |
| Velvetgrass | 3-5 | 2 |
| Wheatgrass, western | 2-3 | 2 |
| *Partial control | | |

^{*}Partial control
**Not registered in California for use on this weed

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9.3 Woody Brush and Trees

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 5 to 10% percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

Proadcast

Used Hald

| | Weed Species | Broadcast Rate (QT/A) | Hand-Held Spray-to-Wet % Solution | |
|---|---------------------------------------|-----------------------------|---|---|
| | Alder | 3-4 | 4 4 5 | |
| | Ash* | 2-5 | 1-1.5 | |
| | | 2-3 2-3 | 1-2 | |
| | Aspen, quaking | | 1-1.5 | |
| | Bearmat (Bearclover)* | 2-5 | 1-2 | |
| | Beech* | 2-5 | 1-2 | |
| | Birch | 2 | 1 | |
| | Blackberry | 3-4 | 1-1.5 | |
| | Blackgum | 2-5 | . 1-2 | |
| 1 | Bracken | 2-5 | 1-2 | |
| ł | Broom; French, Scotch | <u>- 2-5</u> | 1.5-2 | |
| 1 | Buckwheat, California* | - <u>2-4</u> | 1-2 | • |
| | Cascara* | 2-5 | 1-2 | |
| | Catsclaw* | | 1-1.5 | |
| | Ceanothus* | 2-5 | 1-2 | |
| | Chamise* | 2-5 | 1 | |
| | Cherry; bitter, black, pin | 2-3 | 1-1.5 | |
| l | Coyote brush | - 3-4 | 1.5-2 | |
| | Dógwood* | 2-5 | 1-2 | |
| | Elderberry | 2 | 1 | |
| | Eim* | 2-5 | 1-2 | |
| | Eucalyptus | | 2 | |
| | Florida holly (Brazilian Peppertree)* | 2- 5 | 1-2 | |
| | Gorse* | 2-5 | 1-2 | |
| I | Hasardia* | - <u>2-4</u> | 1-2 | |
| | Hawthorn | 2-3 | 1-1.5 | |
| • | Hazel | 2 | 1 | |
| | Hickory* | 2-5 | 1-2 | |
| | Honeysuckle | 3-4 | 1-1.5 | |
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| Hombeam, American* | 2-5 | 1-2 |
|-----------------------------------|--------------------|-------|
| Kudzu | 4 | 2 |
| Locust, black* | 2-4 | 1-2 |
| Madrone resprouts* | | 2 |
| Manzanita* | 2-5 | 1-2 |
| Maple, red | 2-4 | 1-1.5 |
| Maple, sugar | | 1-1.5 |
| Monkey flower* | <u> </u> | 1-2 |
| Oak; black, white* | 2-4 | 1-2 |
| Oak, post | 3-4 | 1-1.5 |
| Oak; northern, pin | 2-4 | 1-1.5 |
| Oak, Scrub* | 2-4 | 1-1.5 |
| Oak; southern red | 2-3 | 1-1.5 |
| Persimmon* | 2-5 | 1-2 |
| Pine | 2-5 | 1-2 |
| Poison ivy /Poison oak | 4-5 | 2 |
| Poison oak | _ 4-5 _ | 2 |
| Popiar, yellow* | 2-5 | 1-2 |
| Redbud, eastern | 2-5 | 1-2 |
| Rose, multiflora | 2 | 1 |
| Russian olive* | 2-5 | 1-2 |
| Sage, black | <u> </u> | 1 |
| Sage, white* | 2-5 2-4 | 1-2 |
| Sage brush, California | <u> </u> | 1 |
| Salmonberry | 2 | 1 |
| Saltcedar* | 2-5 | 1-2 |
| Sassafras* | 2-5 | 1-2 |
| Sourwood* | 2-5 | 1-2 |
| Sumac; poison, smooth, winged* | 2-4 | 1-2 |
| Sweetgum | 2-3 | 1-1.5 |
| Swordfern* | 2-5 | 1-2 |
| Tallowtree, Chinese | | 1 |
| Tan oak resprouts* | | 2 |
| Thimbleberry | 2 | 1 |
| Tobacco, tree* | <u> </u> | 1-2 |
| Trumpetcreeper | 2-3 | 1-1.5 |
| Vine maple* | 2-5 | 1-2 |
| Virginia creeper | 2-5 | 1-2 |
| Waxmyrtle, southern* | 2-5 | 1-2 |
| Willow | 3 | 1 |
| *Destinal acceptant | | |

^{*}Partial control

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10.0:LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet ("Directions") when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

Buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other fort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

- [™] Escort, Hyvar, <u>Karmex</u>, Krovar, Oust, and Telar are trademarks of E.I. duPont de Nemours and Company.
- [™] Caliber and Princep are is a trademarks of CIBA Crop Protection Ciba Geigy Corporation.
- ™ Garlon, Spike, Surflan and Tordon are trademarks of <u>Dow</u>Elanco Products Company.
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This product is protected by U.S. Patent No. 4,405,531. Other patents pending. No license granted under any non-U.S. patent(s).

| EPA Reg. No. 524-475 | | |
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| *************************************** | In case of an emergency involving this produ | Let |
| | | |
| | Call Collect, day or night, (314) 694-4000. | · |

©MONSANTO COMPANY 19957

The President's Green Chemistry Award was presented in 1996 to Monsanto for it's innovative "zero-waste" process in the manufacture of Roundup herbicide.

MONSANTO COMPANY
AGRICULTURAL PRODUCTS
ST. LOUIS, MISSOURI, 63167 U.S.A.

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| Please read instructions on reverse before completing form. | Form Appro | H OMB No. 207 | O-0060. Approvel expires 05-31-98 |
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| Environmental Protection A Washington, DC 20460 | . [| Registrat x Amendm Other | ion OPP Identifier Number |
| Application f | or Pesticide - Secti | ion I | |
| 1. Company/Product Number | 2. EPA Product Mana | ger | 3. Proposed Classification |
| 524-475 4. Company/Product (Name) | Philip V. E | rrico | None Restricted |
| Roundup® Pro Herbicide 5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 Check if this is a new address | 6. Expedited Revi (b)(i), my product is to: EPA Reg. No. | similar or identic | ce with FIFRA Section 3(c)(3) al in composition and labeling |
| | Product Name | | |
| Amendment - Explain below. Resubmission in response to Agency letter dated Notification - Explain below. | Final printed Agency lette "Me Too" A | pplication. | 6 51 55 10 10 10 10 10 10 10 10 10 10 10 10 10 |
| Material This Product Will Be Packaged In: | Section - III | | |
| Yes Yes No No II "Yes" No per If | Yas No. per container | 2. Type of C | ontainer Metal Plastic Glass Papar Other (Specify) |
| 3. Location of Net Contents Information 4. Size(s) Retail C Label Container | ontainer | 5. Location of Label On Labeli | l Directions ng eccompanying product |
| 6. Manner in Which Label is Affixed to Product Lithograph Paper glued Stendied | d | | |
| | Section - IV | · · · · · · · · · · · · · · · · · · · | 7 5 |
| 1. Contact Point (Complete items directly below for identification of Name Dr. Russell P. Schneider Title | | ···· | relephone No. (Include Area Code) (202) 女83-2460 |
| Certification I certify that the statements I have made on this form and all a I acknowledge that any knowingly false or misleading statemen both under applicable law. | ttachments thereto are true | | |
| - Johnson G. Johnson | Manager, Regulato | ry Affairs | 210 |
| 4. Typed Name Sheila A. Schuette, Ph.D. 5.D. | mprel 3, | 1997 | 310 |

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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). Ill not exempted by 40 CFR 152.81 (b) (4));
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Examption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8 7 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations that are similar or identical to other posticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types.
 Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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United States Environmental Protection Agency Washington, DC 20460

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| | is labeled for the same uses, you do not need to st Exemption Statement (EPA Form 8570-27). 1. This application is supported by all data submit options are indicated, this application is support properties or effects of this product that is identical of data that would be required to be submitted product of identical or similar composition and the date of aproposal of this application. (Check pertain to your application.) 2. I certify that, for each study cited in support of study, x I am the original submitter*; or I have obtained the written permission of the study. 3. I certify that, for each study cited in support of the study. a. x I am the original data submitter*; or I have obtained the written permission of the study. b. I have notified in writing the companies application and have offered to: (a) Pay 3(c)(1)(D) and 3(c)(2)(D) of the Federa and (b) Commence negotiations to deter requirement of FIFRA and the amount have notified are: (Check one) All companies listed on the Pesticid in my product (cite-all method or cite General Offer Statement below.) | 524-475 | |
|----------------|---|--|--|
| | Washington DC 20005 | Product Name Roundup® Pro Her | bicide |
| | washington, be 20005 | Date of Application March 3, 1997 | <u> </u> |
| | NOTE: If your product is a 100% repackaging of a is labeled for the same uses, you do not need to submit Exemption Statement (EPA Form 8570-27). | | |
| | This application is supported by all data submitted options are indicated, this application is supported by properties or effects of this product that is identical of data that would be required to be submitted if the product of identical or similar composition and inter the date of aproprval of this application. (Check the pertain to your application.) | by all data in the Agency's files that co al or substantially similar, and that is o his application sought the initial registrended uses under the data requirement | ncern the ne of the types ation of a s in effect on |
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| | I have obtained the written permission of th | ne original data submitter to cite that s | nudy*; or 🖺 |
| | b. I have notified in writing the companies that application and have offered to: (a) Pay con 3(c)(1)(D) and 3(c)(2)(D) of the Federal Instant (b) Commence negotiations to determine requirement of FIFRA and the amount and have notified are: (Check one) | mpensation for those data in accordance secticide, Fungicide and Rodenticide A se which data are subject to the compe | te with section act (FIFRA); |
| | All companies listed on the Pesticide Dain my product (cite-all method or cite-all General Offer Statement below.) | ata Submitters List for all active ingred I option under Selective Method*). (A | dients contained also, sign the |
| | Those companies that have submitted th | ne studies which I have cited (Selective | method*). |
| | A Data Matrix identifying these studies is attached cite-all method.) | d. (Note: a Data Matrix is not requir | ed under the |
| neture Keel | Name and Title Sheila A. Schue Manager, Regula | | |

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Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 3, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® PRO Herbicide (EPA Reg. No. 524-475)

Submission of Amended Label Booklet

Dear Sir:

Enclosed for Agency review and approval are five (5) copies of an amended label booklet for Roundup PRO herbicide. In addition to minor typographical and grammatical corrections, the following changes have been made to the amended label:

- On page 2, we have added a statement that not all tank mix products recommended on the label are approved for use in California and direct the user to check the registration status of each product before using.
- We have listed the amount of surfactant in the product, page 3.
- In the "General Information" section on page 6, we have included information on glyphosate's mode of action, volatility and toxicology testing.

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- On page 7, we have modified the statement concerning conditions favoring drift and no longer specify an exact wind speed of 5 miles per hour.
- In Section 6.1 on mixing instructions, page 7, we have modified the instructions to avoid back-siphoning. We have also included a statement that state and local regulations should be followed. This change was requested by the Minnesota Department of Agriculture.
- More detailed instructions have been provided for use of hand-held and high-volume equipment, page 9.
- √ The concentration range for wick applicators has been increased, page 10.
- \(\sqrt{More detailed instructions have been added for use with injection systems, page 11. \)
- On page 12, we have added sod and turf seed farms to the list of noncrop areas and industrial sites. We have also modified the list of tank mix products that are recommended.
- The directions for Chemical Mowing, page 13, have been separated into two sections: one for perennials and one for annuals.
- Also in this section, we have provided more detail on the treatment of dormant turfgrass, added a section on bermudagrass, and added directions for use in seed and sod turf, pages 13-14.
- We have modified the list of tank mix products recommended for use in railroads, pages 15-16, and roadsides, page 17.
- The maximum recommended application volume has been increased from 25 to 40 gallons per acre for bermudagrass applications, page 18.
- In the Annual Weeds Rate Table, page 19, we have increased the maximum application rate to 4 quarts per acre. We also recommended using a 2% spray solution for weeds that are over 24 inches tall or are tough to control. On pages 19-21 of this table we have corrected the name of bassia fivehook and added common purslane to the list of weeds controlled.
- In the Perennial Weeds Rate Table, page 21, we have added a statement that thorough coverage is necessary when using hand-held equipment; a 5-10% solution is recommended for low volume directed spot treatments. On pages 21-22 of this table we have made adjustments in the recommended rates for several species and added several weed species including German ivy and western wheatgrass.

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Roundup® PRO Label Booklet March 3, 1997 Page 3

- In the Woody Brush and Trees Rate Table, page 23-24, we have made adjustments in the recommended rates for several species and added poison oak to the list of species controlled.
- The list of trademarks, page 25, has been updated.
- On page 26 we have added a statement that the President's Green Chemistry Award was presented to Monsanto in 1996 for our innovative "zero-waste" process in the manufacture of Roundup herbicide. This award was presented to Monsanto on July 11, 1996 by Vice President Al Gore.

Monsanto requests that the Agency approve and stamp the enclosed label. A list of data supporting the uses on the this amended label can be found in MRID 43712700, which was submitted to the Agency on June 29, 1995. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shula a. Schuette

(314) 694-7248

cc: R.P. Schneider Boyd Carey D.M. Fee-White

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2 1 1997

Dr. Sheila A. Schuette Monsanto Company 700 14th Street, N.W. Suite #1100 Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Ultra Herbicide (Application to Nonbearing

Ginseng)

EPA Registration No. 524-475

Your Application Dated March 3, 1997

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended is acceptable. A stamped copy of i labeling is enclosed for your records.

Sincerely,

James A. Tompkins
Acting Team Leader 25
Herbicide Branch
Registration Division (7505C)

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SUPPLEMENTAL LABELING

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READ THE ENTIRE LABEL FOR ROUNDUP ® ULTRA HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label"-as used in this supplemental labeling refers to the label booklet for Roundup Ultra and this supplement.

> ROUNDUP ® ULTRA Herbicide by Monsanto

EPA Reg. No. 524-475

FOR USE IN NONBEARING GINSENG

Keep out of reach of children.

CAUTION!

In case of an emergency involving this product, Call Collect, day or night, 314-694-4000.

® Roundup is a registered trademark of Monsanto Company.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling.

This label must be in the possession of the user at the time of application.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

See "GENERAL INFORMATION" and "MIXING" sections of the label booklet for Roundup Ultra herbicide for essential product performance information.

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CHARGO CREET COMES MODEL OF STATE

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RECOMMENDATIONS

This product may be used for general weed control in established non-bearing ACCEPTED

ginseng.

APP 21 1207

Under the Federal Insecticide Fungicide, and Rodenticide Act. on amonded, for the posticide registered under PA Reg. No. 524-471



Direct applications so that there is no contact of this product with the ginseng plant. Applications may be made with boom equipment, CDA, shielded sprayers, hand-held and high volume wands, lances, orchard guns or with wiper application equipment. Applications must be made at least one year prior to harvest.

For specific rates of application and instructions for control of various annual and perennial weeds, see the Weed Control tables in the label booklet for Roundup Ultra.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE SOLUTION, SPRAY, DRIFT OR MIST WITH FOLIAGE OR GREEN BARK OF TRUNK, BRANCHES, SUCKERS, FRUIT OR OTHER PARTS OF DESIRABLE PLANTS. CONTACT OF THIS PRODUCT WITH OTHER THAN MATURED BROWN BARK CAN RESULT IN SERIOUS CROP DAMAGE.

Read the "Limit of Warranty and Liability" in the label booklet for Roundup Ultra herbicide before using. These terms apply to this supplemental labeling and if these terms are not acceptable, return the product unopened at once.

Monsanto Company 1997

MAP

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167

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| Completing form. United Sta Environmental Prote Washington, DO | tes ction Agency | X | Registrat Amendm Other | tion | OPP Identifier Number |
| Applic | ation for Pesticion | de - Section | l . | | |
| 1. Company/Product Number 524-475 | [| roduct Manager lip V. Erri | co | | posed Classification |
| 4. Company/Product (Name) Roundup® Ultra Herb | oicide PM# | 5 | | لما | None Restricted |
| 5. Name and Address of Applicant (Include ZIP Code) Monsanto Company 700 14th Street, N.W., Suite 1100 Washington, DC 20005 | (b)(i), m to: | | | | FIFRA Section 3(c)(3) nposition and labeling |
| Check if this is a new address | Produ | ct Name | | | |
| | Section - I | i | | | |
| Amendment - Explain below. Resubmission in response to Agency letter dated Notification - Explain below. | | Final printed labe Agency letter dat *Me Too* Applic Other - Explain b | ed ation. | to | R |
| Explanation: Use additional page(s) if necessary. (For se | ection Land Section II.) | - - | | | g - <u>F</u> |
| [†] Submission of a supplemental label | | | seng | | MAR -6 -2 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 -4 |
| | Section - I | <u> </u> | | | <u> </u> |
| 1. Material This Product Will Be Packaged In: | | | 1 | | h |
| Child-Resistant Packaging Yes* No No If "Yes" Unit Packaging Yes No. pe Unit Packaging wgt. contain | | No. per container | Z. Type of | Metal Plastic Glass Paper Other (S | pacify) |
| 3. Location of Net Contents Information 4. Size(s | s) Retail Container | 5. Le | On Label | | ns panying product |
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| | Section - P | <u> </u> | | | |
| 1. Contact Point (Complete items directly below for identif | - , | | | ocess this | application.) |
| Dr. Russell P. Schneider | π _{Ne} Agricul Directo | tural Regul or | ation | | No. (Include Area Code) 783-2460 |
| Certify that the statements I have made on this form I acknowledge that any knowingly false or misleading both under applicable law. | | | | | 6 Date Application Beceived (Stamped) |

Sheila A. Schuette, Ph.D.

Manager, Regulatory Affairs

march 3, 1997



PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other espect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, and use reregistration, amandment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exampted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization letter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 85-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A¹- Check the appropriate action for which you are submitting this form.

<u>SECTION 1</u> - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and eddress shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of enother party, you must submit authorization from that perty to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to gour product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling; for reregistration and for any other action that partains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general fabel revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types, indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product.
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to product Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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\$EPA

United States Environmental Protection Agency Washington, DC 20460

Certification with Respect to Citation of Data

Form Approved
OMB No. 2070-0060
Approval Expires 11-30-93

| Applicants Name and Address Monsanto Company | | EPA File Symbol/Registration Number 524-475 | | | | |
|--|---|--|--|--|--|--|
| | 14th Street, N.W., Suite 1100 | Product Name | | | | |
| Washington, DC 20005 | | Roundup® Ultra Herbicide | | | | |
| | | Date of Application March 3, 1997 | | | | |
| | NOTE: If your product is a 100% repackaging of is labeled for the same uses, you do not need to sub Exemption Statement (EPA Form 8570-27). | of another EPA-registered product that you purchase, as omit this form. You must submit the Formulator's | | | | |
| | options are indicated, this application is supported properties or effects of this product that is idented of data that would be required to be submitted if product of identical or similar composition and in | ed or cited in the application. In addition, if cite-all ad by all data in the Agency's files that concern the cited or substantially similar, and that is one of the types of this application sought the initial registration of a ntended uses under the data requirements in effect on the appropriate boxes, in items 2 and 3 below, that | | | | |
| , | 2. I certify that, for each study cited in support of the study, a resumment | his application for registration that is an exclusive use | | | | |
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| • | I have obtained the written permission of the | e original data submitter to cite that study* | | | | |
| | 3. I certify that, for each study cited in support of th study: | is application for registration that is not an exclusive us | | | | |
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| | application and have offered to: (a) Pay of 3(c)(1)(D) and 3(c)(2)(D) of the Federal and (b) Commence negotiations to determ | that have submitted data I have cited to support this compensation for those data in accordance with section Insecticide, Fungicide and Rodenticide Act (FIFRA); in which data are subject to the compensation and terms of compensation due, if any. The companies is | | | | |
| | All companies listed on the Pesticide in my product (cite-all method or cite-General Offer Statement below.) | Data Submitters List for all active ingredients contained all option under Selective Method*). (Also, sign the | | | | |
| | Those companies that have submitted | the studies which I have cited (Selective method*). | | | | |
| | cite-all method.) | hed. (Note: a Data Matrix is not required under the | | | | |
| nature | | Date | | | | |
| , . | Sheila A. Sch | wette, Ph.D. | | | | |

persons, with regard to the approval of this application, to the extent required.

Signature

Name and Title

Date

330





Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 3, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Ultra Herbicide (EPA Reg. No. 524-475)

Submission of a Supplemental Label for Use in Nonbearing

Ginseng

Dear Sir:

Monsanto is submitting a supplemental label for use of Roundup Ultra herbicide (EPA Reg. No. 524-475) in *nonbearing* ginseng. Since ginseng is a three-year crop, this label will allow growers to use Roundup Ultra to treat the row middles in the first two growing seasons; growers would continue to hand hoe the last year. A restriction against making applications one year prior to harvest appears on the label.

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shula a. Schutte

(314) 694-7248

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TELEPHONE: (202) 783-2460

FACSIMILE: (202) 783-2468

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APR 2 | 1997

Dr. Shelia A. Schuette Monsanto Company 700 14 th Street, N.W. Suite #1100 Washington, DC 20005

Dear Dr. Schuette:

Subject: Roundup Pro Herbicde (Control of Bromus and Medusahead On Industrial, Rangeland, and Pasture Sites) EPA Registration No. 524-475 Your Application Dated March 18, 1997

The amendment referred to above, submitted in connection with registration under FIFRA sec. 3(c)(7)(A), is acceptable to provided that you:

- 1. Submit and/or cite all data required for registration/ reregistation of your product under FIFRA sec. 3(c)(5) and sec. 4 when the Agency requires all registrants of similar products to submit such data.
- 2. Submit three (3) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

UKW

James A. Tompkins Acting Team Leader 25 Herbicide Branch Registration Division (7505C)

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SUPPLEMENTAL LABELING

READ AND FOLLOW THE ENTIRE LABEL FOR ROUNDUP® PRO HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

"Label" as used in this supplemental labeling refers to the label booklet for Roundup PRO herbicide and this supplement.

ROUNDUP PRO HERBICIDE BY MONSANTO

EPA Reg. No. 524-475

ROUNDUP PRO HERBICIDE FOR CONTROL OR SUPPRESSION OF BROMUS SPECIES AND MEDUSAHEAD FOUND IN INDUSTRIAL, RANGELAND AND PASTURE SITES IN COLORADO, IDAHO, IOWA, KANSAS, MONTANA, NEBRASKA, NORTH DAKOTA, OREGON, SOUTH DAKOTA, UTAH, WASHINGTON CARE PYTHENG

APR 2 | 1997

Under the Federal Insecticide. Fungicide, and Redouticide Act, as amended, for the posticide

Keep out of reach of children.

CAUTION!

† i

registered under EPA Rag. No. 5 24-475 In case of emergency involving this product, call Collect, day or night, 314-694-4000.

Roundup® is a registered trademark of Monsanto Company.

Directions for Use

It is a violation of Federal law to use this product in any manner inconsistent with the labeling.

This label must be in the possession of the user at the time of the herbicide application.

When applied as directed in this label, there are no grazing restrictions.

APPLICATION EQUIPMENT AND TECHNIQUES

Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre.

BROMUS SPECIES

This product may be used to treat downy brome (Bromus tectorum), Japanese brome (Bromus japonicus), soft chess (Bromus mollis) and cheatgrass (Bromus secalinus) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of product per acre on a broadcast basis.

For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

MEDUSAHEAD

To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4 leaf stage. Applications may be made in the fall or spring.

Read the "LIMIT OF WARRANTY AND LIABILITY" in the label booklet for Roundup Pro before using this product. Those terms apply to this supplemental labeling and, if those terms are not acceptable, return the product unopened at once.

©MONSANTO COMPANY 1996

MONSANTO COMPANY ST. LOUIS, MISSOURI 63167



Monsanto

Monsanto Company Suite 1100 700 14th Street, N.W. Washington, D.C. 20005

March 18, 1997

Office of Pesticide Programs - H7504C Document Processing Desk U.S. Environmental Protection Agency Room 226A, Crystal Mall #2 1921 Jefferson Davis Highway Arlington, Virginia 22202

Attention:

Mr. Philip V. Errico

Acting Product Manager 25

Subject:

Roundup® Pro Herbicide (EPA Reg. No. 524-475)

Submission of A Supplemental Label for *Bromus* Species and Medusahead in Industrial, Rangeland and Pasture Sites in

Various States

Dear Sir:

Mønsanto is submitting a supplemental label for use of Roundup Pro herbicide (EPA Reg. No. 524-475) to control or suppress bromus species and medusahead in industrial, rangeland and pasture sites. This label is identical to those approved by the Agency on June 19, 1996 for Accord® and Roundup® herbicides (EPA Reg. Nos. 524-326 and 524-445, respectively) except that several minor corrections have been made. These corrections include the proper name and appropriate application timing for control of medusahead. This label will be distributed in Colorado, Idaho, Iowa, Kansas, Montana, Nebraska, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

Five (5) copies of the proposed supplemental label are enclosed for Agency review and approval. An Application for Pesticide Amendment and Certification with Respect to

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Roundup® Pro Herbicide March 18, 1997 Page 2

Citation of Data are also enclosed.

If you have any questions regarding this submission, please contact Dr. Russ Schneider or me.

Sincerely,

Sheila A. Schuette, Ph.D. Manager, Regulatory Affairs

Shila a. Schutte

(314) 694-7248

cc: R.P. Schneider

B.J. Carey

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D.M. Fee-White

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| Application r | or Pesticide - Sect | | <u> </u> | | | | |
| 1. Company/Product Number 524-475 | 2. EPA Product Mana | _ | 3. Proposed Classification | | | | |
| 324-473 | Philip V. E | rrico | None Restricted | | | | |
| 4. Company/Product (Nama) Roundup® Pro Herbicide | PM# 2.5 | | | | | | |
| 5. Name and Address of Applicant (Include ZIP Code) | C Evendinal Day | ious la secordada | n with EJERA Spotian 3/s//31 | | | | |
| Monsanto Company | | | e with FIFRA Section 3(c)(3) at in composition and labeling | | | | |
| 700 14th Street, N.W., Suite 1100 | to: | | | | | | |
| Washington, DC 20005 | EPA Reg. No. | | · | | | | |
| Check if this is a new address | | | | | | | |
| <u> </u> | Product Name _ | | | | | | |
| | Section - II | | | | | | |
| X Amendment - Explain below. | 1 1 ' | l labels in response t | 0 | | | | |
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| Notification - Explain below. | Other - Exp | ain below. | | | | | |
| Explanation: Use additional page(s) if necessary. (For section t an | d Section II.) | <u> </u> | | | | | |
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| Submission of a supplemental label f | | | ead in | | | | |
| industrial, rangeland and pasture si | ites in various st | ates | | | | | |
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| | Section - III | | <u> </u> | | | | |
| Material This Product Will Be Packaged In: | | | | | | | |
| | Veter Soluble Peckeging | 2. Type of C | | | | | |
| Yos* Yos | Yes | Metal Plastic | | | | | |
| No [No [| No | | Glass | | | | |
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| e submitted Unit Packaging wgt. container | ackaga wgt containe: | | Other (Specify) | | | | |
| 3. Location of Net Contents Information 4. Size(s) Retail C | ontainer | 5. Location of Label | Directions | | | | |
| Label Container | | On Label On Labeling accompanying product | | | | | |
| , | | | a pecompanying product | | | | |
| 5. Manner in Which Label is Affixed to Product Lithograph Paper glue Stenciled | d Other | | | | | | |
| | Section - IV | | | | | | |
| 1. Contact Point (Complete items directly below for identification of | individual to be contacted. | if necessary, to proc | cess this application.) | | | | |
| | Agricultural Re | · • | elephone No. (include Area Code) | | | | |
| Dr. Russell P. Schneider | Director | | (202) 783-2460 | | | | |
| Certification | 1 | | 6. Data Application | | | | |
| certify that the statements I have made on this form and all a | attachments thereto are trui | , accurate and comp | plete. Received | | | | |
| .f acknowledge that any knowingly false or misleading statema both under applicable law. | nt may be punishable by fir | e or imprisonment o | (Stamped) | | | | |
| 2. Signature 3. To | itle | | | | | | |
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| Janes Janes | | | | | | | |
| 4. Typed Name Sheila A. Schuette, Ph.D. 5.0 | ate | | 1530 | | | | |
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| EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete. | | te - EPA File Copy | original) Yellow - Applicant Co | | | | |
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PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to everage 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

<u>INSTRUCTIONS:</u> This form is to be used for all applications for new registration, and use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, stc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

- 1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
- 2. Confidential Statement of Formula (EPA Form 8570-4);
- 3. Formulator's Exemption Statement (EPA Form 8570-27);
- 4. Five copies of draft labeling;
- 5. Three copies of any data submitted;
- 6. Authorization latter where applicable;
- 7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.

Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.

Block A 4Check the appropriate action for which you are submitting this form.

SECTION | - This section must be completed, as applicable, for all registration actions.

- 1. Company/Product Number Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrent, a distributor, or as an establishment. If your product is registered, insert the Product Number.
- 2. EPA Product Manager If known, fill in the name and PM number of the EPA Product Manager.
- 3. Proposed Classification Specify the proposed classification of this product.
- 4. Product Name Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. On not include any brand name or company line designations.
- 5. Name and Address of Applicant The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
- 6. Expedited Review FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that partains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission. Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

- 1. Type of Packaging Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
- 2. Type of Retail Container Indicate type of container in which product will be marketed.
- 3. Location of Net Contents Indicate the location of the net contents information for your product,
- 4. Size(s) of Retail Container Specify the net contents of all retail containers for your product.
- 5. Location of Use Directions Indicate the location of the use directions for your product.
- 6. Manner in which label is affixed to gruduct Indicated the method product label is attached to retail container.

SECTION IV (Con.Lct Point) - This Section must be completed for all applications for Registration ections, i.e., new products registration, resubmission, "me-tuc," registration, etc.

- 1-5. Self-explanatory.
- 6. EPA Use Only.

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United States Environmental Protection Agency Washington, DC 20460

Certification with Respect to Citation of Data

Form Approved OMB No. 2070-0060 Approval Expires 11-30-93

| Applicants Name and Address | EPA File Symbol/Registration Number | | | | | |
|--|---|--|--|--|--|--|
| Monsanto Company | 524-475 | | | | | |
| 700 14th Street, N.W., Suite 1100 | Product Name | | | | | |
| Washington, DC 20005 | Roundup® Pro Herbicide | | | | | |
| | Date of Application March 18, 1997 | | | | | |
| is labeled for the same uses, you do not not not not not not not not not no | ackaging of another EPA-registered product that you purchase, and need to submit this form. You must submit the Formulator's 7). It a submitted or cited in the application. In addition, if cite-all is supported by all data in the Agency's files that concern the nat is identical or substantially similar, and that is one of the types submitted if this application sought the initial registration of a sition and intended uses under the data requirements in effect on a. (Check the appropriate boxes, in items 2 and 3 below, that application for registration that is an exclusive use | | | | | |
| I am the original submitter"; or I have obtained the written permission of the original data submitter to cite that study* | | | | | | |
| study: a. x I am the original data submitted I have obtained the written per b. I have notified in writing the coapplication and have offered to: | ompanies that have submitted data I have cited to support this (a) Pay compensation for those data in accordance with section | | | | | |
| and (b) Commence negotiations requirement of FIFRA and the have notified are: (Check one) | • | | | | | |
| All companies listed on the in my product (cite-all meth General Offer Statement be | Pesticide Data Submitters List for all active ingredients contained nod or cite-all option under Selective Method*). (Also, sign the slow.) | | | | | |
| Those companies that have | submitted the studies which I have cited (Selective method*). | | | | | |
| | ies is attached. (Note: a Data Matrix is not required under the | | | | | |
| Sheele a Scheette Manage | er, Regulatory Affairs No. 21 18, 1997 | | | | | |
| General Offer to Pay: I herel persons, with regard to the appr | by offer and agree to pay compensation to other royal of this application, to the extent required. | | | | | |

Name and Title

Date

Signature

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